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PAPER TRADE JOURNAL

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Scandinavian Pulp Agency, Inc.
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New York

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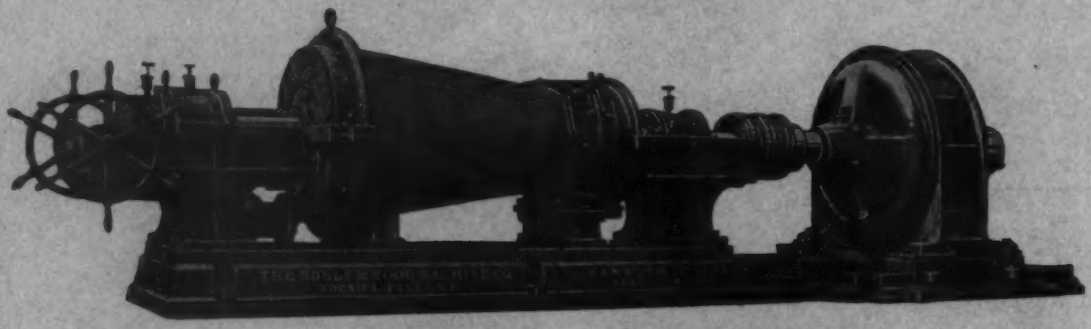

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-THIRD YEAR

Published Every Thursday by the
LOCKWOOD TRADE JOURNAL CO., Inc.

LESLIE R. PALMER, President — GEO. S. MACDONALD, Vice-President & Treas. — F. K. HOPPIE, Secretary

Executive and Editorial Offices: 10 East 39th Street, New York
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PAPER TRADE JOURNAL

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PAPER

Vol. LXXXI. No. 9 Thursday, August 27, 1925

The Magazine of the Paper Industry

International Paper to Enlarge Kipawa Mill

Company Will Enlarge Capacity of Bleached Sulphite Mill To Meet Increasing Demand—Topographical Survey Being Made for International Paper Co.—Plans Ready for Plant of Anglo-Canadian Pulp and Paper Co.—Paper Mill for New Westminster Proposed For High Grade Paper Manufacturing

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., August 26, 1925.—To meet growing demand, the International Paper Company will expand the capacity of its Kipawa bleached sulphite mill to about 250 tons daily, at a cost of between $1,500,000 and $2,000,000. Present facilities permit daily production of about 170 tons. Bleached sulphite is used in making writing paper, is one of the compounds of tissue paper, and the raw material out of which most artificial silk is made. The Kipawa mill which originally cost $17,000,000, is one of the most modern in Canada and was one of two acquired by International Paper when it took over properties of the defunct Riordon Company last spring. Operations have been conducted profitably since its acquisition, as is also the case with the Hawkesbury mill of slightly smaller capacity. The bulk of the output of Kipawa mill is shipped to this country for use by manufacturers of paper and artificial silk. For some years it has made a specialized product which has been in increased demand from makers of artificial silk in the United States, Europe, and elsewhere in the world.

Expanding Market for B. C. Paper

British Columbia paper is selling on a widening market. It supplies Western Canada and a large part of the Pacific Coast States; 1,000 tons monthly goes to Buenos Ayres, several orders were recently sent to Havre, France, which, it is expected, will become a steady market. A market has now been opened at Antwerp. As a result of the new Canada-Australia trade treaty, provincial paper manufacturers are looking for a big demand from that market, which had hitherto been restricted due to a high import duty demanded.

Anglo-Canadian's New Mill

Plans are now being prepared for the construction of the new plant of the Anglo-Canadian Pulp and Paper Company, according to Frank W. Clarke, President of the Canadian Pulp and Paper Association. The site of the new mill will be at Limoilou, Que., and work is expected to commence next spring. It is hoped to have the plant operating by the fall of 1927.

Paper Mill for New Westminster

From New Westminster, B. C., it is announced that provided certain concessions are granted by the council of New Westminster it is proposed to erect another valuable addition to the city's industries by way of a new plant for the manufacture of high grade paper. Application for the concessions, which comprise a free site and exemption from taxes for about three years, was made by the firm of Sir George A. Touche, Limited, acting for William Gorman, Montreal. The site chosen, and for which negotiations are under way, is between 12th and 13th streets, on the British Columbia Electric Railway tracks, and comprises about three acres. A building about 396 by 220 feet is projected, while it is proposed to employ about 60 people at first and from 120 to 150 eventually. It is understood that the proposed plant would not compete with the paper mill already here but would be complimentary to that industry and that the two would co-operate.

How To Meet Reduced Prices

R. A. McInnis, mill manager of the Abitibi Power and Paper Company, in dealing with the falling price of paper, said that the only way in which the situation could be met was by greater co-operation between woods operators and the mill operators. The mills had spent hundreds of thousands of dollars on equipment, looking towards a reduction in the cost per ton, and they had come to the point where no further large savings could be made in the mill. True, methods might be devised for saving a few cents a ton here and there, but any large cut in the cost of production per ton must, in the future, come through reduction in the cost of wood. To illustrate, non-conformity of quality of wood, delivered within a given period, is often responsible for certain wastes or losses in the mill, and it is conceivable that there may exist economical ways and means for decreasing such losses through revision in delivery methods employed by the woods operator.

Survey for International's New Mill

A party of engineers, acting for the Quebec Streams Commission, left Quebec last week for Lake Cabonga, one of the lakes at the head of the Gatineau, to prepare a topographical survey of the coming harnessing of water power at Chelsea and Paugan Falls, respectively, by the International Power and Hull Electric. Paugan Falls can supply about 20,000 h.p. and was leased for 50 years by the Government to the Hull Electric Company in 1922. The annual rent is $1,000 and also the payment of 50 cents per h.p., over 16,000 h.p., with a proviso that the harnessing work was to start before August, 1928. In the case of Chelsea, the letters patent were issued in 1902 and a total of 30,000 h.p. is available. The object in sending a party of engineers now is to prepare plans for the regularization of the waters of the Gatineau, which will facilitate the development work. Already the Streams Commission possesses air pictures, thus allowing preliminary plans to be worked upon.

Philadelphia Paper Market Turns Reactionary

Most Lines Showed Duller Trend During the Past Week—Record Cargo of Cryolite Arrives From Greenland—Tempest Mill Adds Machine for Manufacture of Rope Tissue and Copying Papers—W. B. Kilhouer Made Assistant Secretary of Quaker City Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 24, 1925.—With the mid-August days, the general paper market turned reactionary and spotty. A few of the paper dealers reported an active demand but the majority found business of a duller trend. Of course there is no undue concern over the present resting spell which followed in the wake of the broader markets of the preceding week and the continued inquiries for fall deliveries gives a more hopeful aspect to the coming seasonal demand. Prices, too, give indications of a steadier tone to the mill shipments and, in view of this, the dealers are confident that the industry is in healthier condition as a whole. Most of the mill offerings in the Philadelphia territory are at higher quotations, indicative of no overproduction in any lines.

In the fine paper group there is more tendency to spasmodic buying and chiefly for mill shipments. As has been noted throughout the summer months the demand is centered among the publishing, large printing and advertising concerns, just now active in their respective fields with Fall orders. Book papers are the most active with a few of the grades of writings used in manufacturing stationery in fair demand. Other grades of writings are moving in from hand to mouth quantities.

Fair Demand for Coarse Papers

In the coarse paper division there is the most hopeful indication of the paper market. Here the prices have been more firmly held and show a rising tendency. The Southern mills which have been offering freely Krafts at remarkably low levels all through the early summer now have advanced their prices in line with the recent quotations of the Northern manufacturers. Other grades of coarse paper show a steadier tone although still quoted at the lowest prices since war days. Demand in all lines of coarse papers was not as well maintained as in the earlier days of August. Inquiries, however, are numerous and no doubt will materialize in fair sized orders during the next fortnight.

True to form the paper stock market is dragging along in the doldroms of an August market and while mills are now more frequent inquirers after price quotation there still is a tendency to put off buying. Prices no doubt will be advanced when the mills do place their requirements as there is a dearth of all grades and collections of the raw materials are slow.

W. B. Kilhouer Joins Quaker City Paper Co.

W. B. Kilhouer, son of William Kilhouer, Treasurer of the Quaker City Paper Company, is now associated with the firm as its Assistant Secretary. He will also take over the duties of Harvey Hearl, recently resigned from the firm and now associated with the sales organization of the Garrett-Buchanan Company. Although the younger Kilhouer has recently been elected to official association with the company he has been for some time learning the business from the practical side of salesmanship.

Large Importations of Rag Stocks

Statistics of the Port of Philadelphia compiled by the Commissioners of Navigation show that there are large quantities of rags being imported from European centers. The scarcity of rags of domestic accumulation has necessitated the importation of the foreign products and many Philadelphia importers are using local port facilities for the importing of their raw materials in this line. There is, however, not a very large margin between the cost of the foreign and the domestic product, showing the steadier prices for rags. The firmness of the European stocks is shown in the quotation comparisons. Prices for No. 1 roofing stocks in this market range from $2.35 to $2.45 while the Eastern centers are quoting $2.55. Foreign dark cottons are quoted at $2.40 for September deliveries and $2.30 spot quotations. There has been more importing for shipments to Felt and linoleum manufacturers than for the paper mills.

S. Walter Booms Philadelphia Ports

While the importance of Philadelphia Ports as importation center for pulp and raw materials used in paper manufacturing and for large quantities of newsprint is being recognized in the industry, a word of praise for the facilities of this port is timely conveyed by President Simon Walter, head of the paper firm bearing his name, and a member of City Council, now touring Europe. During the week a wire to Director Sproule of the Department of Wharves, Docks and Ferries conveyed his opinions of the present improved port facilities. President Walter sent from Hamburg, Germany, to the Director the following message:—"Took a trip around the harbor here. Saw some of the large docks. None of them is any better than those we built recently. Can see the possibilities of our harbor." It is expected that the head of the Walters company will return to his desk in time for the opening of City Councils in September after a two months' tour of Europe.

Record Cargo of Cryolite For Penn. Salt Co.

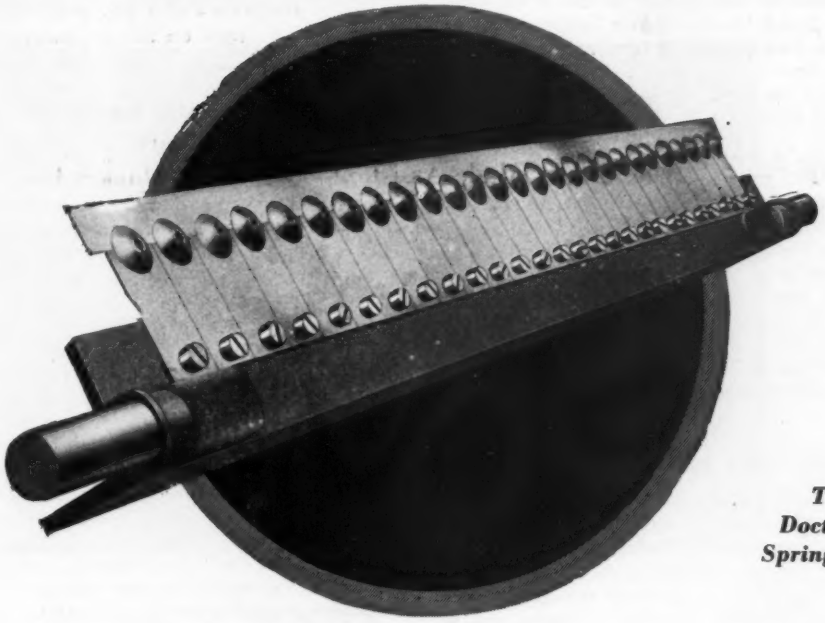
Traveling at reduced speed at night for the greater part of the voyage here from Greenland because of icebergs and ice floes, the Norwegian steamship Bauta docked at Pier 92, South, during the week to discharge a 2,500 ton cargo of cryolite, the largest amount ever brought into this port. The ore was consigned to the Pennsylvania Salt Manufacturing Company, of this city and was transported from Ivigtut, about 300 miles north of Cape Farewell where the cryolite was mined and loaded, consuming 11 days in transit. It took four days to load the cargo and during that time lighting was supplied by the mid-night sun of the Arctic. Two more cargoes will be brought here by the Bauta before the Arctic winter begins.

Frank Berry Promoted To Sales Manager

Following the severing of his connection with the Dill and Collins Company, central city offices, 112 N. 12th Street, Courtney Reeves has become associated with the Paper Mills Company, of Chicago. His duties of manager of out of town sales have been taken over by Frank Berry, for some time connected with the sales organization.

New Machine For Tempest Mill

The newest improved type of mechanical equipment has just been added to the plant of the Tempest Mill, owned by Edwin Garrett, and located at Granogue, Delaware County, Pa. The new equipment consists of a 62 inch machine to be devoted to the manufacture of rope tissue and copying papers. The mills now are producing large quantities of tissues such as used in connection with anti-tarnish wrapping papers. The increased business at



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It takes one more burden off your shoulders

Think of the many expensive processes that must be gone through before a sheet of paper finally reaches the calender stacks. Surely, no obstacle to quality or quantity should be tolerated at this final stage.

Yet imperfect doctoring is still allowed to be a production hazard, a cause of more or less constant loss and worry in many mills.

Use

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The Vickery Doctor is entirely self-adjusting. It absolutely will not score.

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the mills has necessitated the employment of double the former number of employes. Joseph Harvey Garrett, brother of the proprietor, has accepted a position with the firm as foreman of the mill forces. A short time ago the mills were stripped of their workers by a competitor and these were entirely replaced by new men who were secured by the present foreman.

Huff Paper Co. Acquires New Lines

The lines of the Victory Bag and Paper Company are now being distributed in the Philadelphia territory by the Huff Paper Company, with offices in the Denkla Building. The distribution of these specialties manufactured at the plant in Marinette, Wis., is confined to Southern New Jersey, Eastern Pennsylvania, Philadelphia and Delaware. With the acquisition of the Victory products the Huff Company also will represent the famous Kant Tear, Pedigree and Grey Stone Food Containers packed in Fibre shipping containers attractively painted in two colors for high class mercantile trade.

Champion Coated Paper Exhibits

Under the auspices of the Philadelphia offices of the Champion Coated Paper Company, the printers of Central Pennsylvania were given an opportunity to view the manufacturing processes used in the manufacture of the famous Champion Coated Paper. Philadelphia Manager Charles A. Labor, by special arrangement with the Advertising Department of the Champion Company, and its Manager, E. Kenneth Hunt, gave a lantern slide exhibit of the complete process from the gathering of the timber, through the pulp and bleaching preparation to the finished product and its shipment to the members of the Typhothetæ of Central Pennsylvania at its last quarterly meeting held in Lancaster, Pa. Both Manager Labor and Advertising Manager Hunt told of the various phases through which the raw materials were passed before the high grade coated products were ready for market and took his audience, through the screen demonstration, down to the mills at Canton, N. C., and into the plant at Hamilton, Ohio.

Goldman Sells Pulp Warehouse

The larger building at Delaware Avenue and Kenilworth Street used by the Goldman Paper Company, for the storage of large tonnage of paper pulp which the firm imported from the Scandinavian markets was sold during the week. The building is one of the largest of down town storage structures and covered an entire city block. It was purchased by Charles Goldman, formerly connected with the paper stock business, but recently retired, when the business was assigned to his sons, Harry and George Goldman, for the sum of $700,000. Mr. Goldman has been devoting his entire time to his real estate business.

Help Clear Franklin Mystery

Through the insertion of an epitaph which was believed to have been the original made by Ben Franklin for his grave heading back in 1728 in a book compiled by Dill and Collins on the Master Printer's Life in celebration of the two hundredth anniversary of the arrival of Poor Richard in Philadelphia, a mystery surrounding the epitaph has been cleared. It was disclosed during the week that the original epitaph is in the hands of William Smith Mason, a real estate dealer of Chicago and collector of original Franklin manuscript and created much comment upon the discovery in the local press. The book compiled by the Dill and Collins Company was issued on the Poor Richard Anniversary in 1923, more than 10,000 volumes having been published with 9,000 circulated to all parts of the globe by the pape rmanufacturers. It was published by Brad and Stevens of Boston and received much favorable comment as a source of light on Franklin's life.

Iroquois Paper Co. Wins Rates Case

[FROM OUR REGULAR CORRESPONDENT]

THOMSON, N. Y., August 22, 1925.—The Iroquois Pulp and Paper Company, with plants at McKeever and Thomson for the manufacture of mechanical pulp and news, blank and hanging papers, won a victory when the Interstate Commerce Commission in Washington yesterday ordered the railroads to put into effect rates on wood pulp in carloads from a number of points in Canada to Thomson on a parity with rates to Warrensburg and from the same points to Thomson a rate not exceeding by three cents per hundred pounds the rates to Glens Falls. The Iroquois Company manufactures wood pulp exclusively at McKeever and at Thomson it manufactures wood pulp and varieties of paper, including a large quantity of hanging paper which it makes for the Standard Wall Paper Company.

The complainant alleged that the Greenwich and Johnsonville Railway, Delaware & Hudson, Grand Trunk, Canadian National and Canadian and Pacific railways were charging rates on wood pulp from Quebec, Bromptonville, Donnaconna, Grand Mere, Chicoutimi, Val Jalber, Pont Rouge, Cap Madeline, Matapedia, Old Lane Road, Rimouski and Riviere du Loop, P. Q., and Ottawa and Iroquois Falls, Ontario, to its mills at Thomson that were unreasonable and unduly prejudicial to it and preferential to its competitors at Glens Falls, Fort Edward, Corinth and Warrensburg. It asked the Commission to order lower rates for the future and to award it reparation on past shipments.

The present rates from the Canadian points mentioned to Thomson average from two to seven cents higher per hundred pounds than from the same points to Warrensburg and from between five to nine cents higher than to Glens Falls. For instance, the rate from Ottawa to Glens Falls is 19 cents per 100 pounds; to Warrensburg 21½ cents and to Thomson 28 cents. From Pont Rouge to Glens Falls the rate is 27 cents; to Warrensburg 29 cents and to Thomson 35 cents.

The Iroquois Pulp and Paper Company asked the Interstate Commission to group all the rates from Canadian points of origin to Glens Falls, Corinth, Warrensburg and Thomson on the ground that there is lively competition between the various mills, but slight difference in distances and admittedly no substantial difference in transportation conditions. It also asked that the railroads be required to award reparation on this basis on past shipments, amounting to about 14,000 tons of wood pulp a year. The Commission ordered the new rates into effect October 31.

A. J. Lewthwaite to Go to San Francisco

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 21, 1925.—A. J. Lewthwaite, resident manager of the Crown-Willamette paper company's offices in Portland, Oregon, and a vice-president of the firm, has been advanced to the main office of the company at San Francisco.

Mr. Lewthwaite is a man of wide experience in the paper business, having been allied with paper interests since his youth, when he was first employed by the former Willamette Pulp and Paper Company of Oregon City. He was later for a few years with a concern in the East, returning in 1907 to become resident manager of the Crown-Columbia Paper Company which position he retained when this company was merged with others into the present concern.

Albert Bankus will succeed Mr. Lewthwaite, having been his assistant for many years.

C. W. Morden who has been manager of the Crown-Willamette paper mills at West Linn, Oregon, has been advanced to the position vacated by Mr. Bankus.

Mr. Lewthwaite is selling his beautiful home in Portland and the family have been the center of many social festivities preceding their departure for their new location.

"Colthrop Board & Paper Mills Ltd.

Thatcham, Berks.

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Here the beater engineer serves a long apprenticeship, and the science of beating is given due recognition. They use Dilts beaters too, and "their paper is made in their beaters."

Increasing demand for container board and other grades calls for increased production at the mills. Their Dilts beaters assist in turning out more and better quality of paper.

Years of experience have taught us much about building good Beating Engines. We have made constant improvement until now we build the Dilts approved NEW TYPE Beater which is superior to others in combining High Speed, Heavy Furnish, Rapid Mixing, Uniform Beating, Quick Dumping, and **no increase in power consumption.** This approved NEW TYPE is truly a remarkable beating engine.

Send for list of users, names of recent purchasers, and list of our unfilled contracts. You will be interested.

Dilts

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Improved Money Conditions Help Toronto Trade

Indications Point to a More Rapid Stock Turnover Soon—Directors of Spanish River Paper Mills Make Annual Inspection—Interlake Tissue Mills Turning Out New Line of Towels —Canadian National Exhibition Attracts Many Paper Purchasers

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ontario, August 24, 1925.—With the advent of a fine harvest in most lines of produce grown on the farm and due to the fact that there will be more money in circulation, business in the paper line has been picking up some during the past few days. It is hoped by the trade that from this out there will be a larger turnover. Coated paper mills are rather quiet at present owing to the competition of supercalendered papers, which have been in good demand. Bonds and writings have been going a little slow but a change is expected soon.

Travelers, who have returned during the past week from Western Ontario, report that there is a better feeling in the air and a few more orders than usual have been secured. The feeling of pessimism, which prevailed in some quarters, is giving way and normal trade may be expected ere many weeks have passed. Printers have been getting busier and this has resulted in a large number of small orders, which is reflected in the quantities going out from the warehouses.

The rag and paper stock market is fairly active and collections should soon improve. Paper bag plants are quiet and have been running only three days a week for some time. The paper box business is picking up some but not as rapidly as hoped for. There is a fairly good demand for kraft paper for this season of the year in Western Canada and in Quebec but in Ontario, for some reason, the call is rather light at the present time. Collections are improving but jobbers still have to watch all accounts very closely and make collections promptly. Credits in most cases are limited.

Annual Inspection of Plants

The annual inspection of the various mills of the Spanish River Paper Mills was made last week by the directors of the company. J. G. Gibson, secretary of the company, T. H. Watson and T. W. Sime left Toronto for Sturgeon Falls, where they were joined by George H. Mead, of Dayton, Ohio, President; F. B. Wilson, of Sault Ste. Marie, Vice President; George R. Gray, Manager of woods and operations; C. E. Read, Col. C. H. L. Jones, manager of mill operations, and W. N. Hurlbut of Dayton, Ohio. The directors visited the plants at Sturgeon Falls, Espanola and Sault Ste Marie and found everything in splendid shape. The final passing of the financial statement and report took place at Sault Ste Marie where a meeting was held, preparatory to the annual meeting of the company which will take place in Toronto on September 24. It is expected that a net profit will be shown on the last year's operations of about a million dollars, while a like improvement is looked for in working capital, bringing the total close to ten million dollars. During the past year bonds to the extent of $520,000 have been redeemed.

Two New Watermark Lines

The Provincial Paper Mills, Toronto, are turning out at their plants at Thorold and Port Arthur, two new, water-mark lines of paper known as "Provincial Bond" and "Provincial Bank." The former is a sulphite paper and the latter is a semi-bond, which comes in white and six other colors. The various plants of the company are now running to near capacity and a good business is looked for for the remainder of the year.

Turning Out New Lines of Towels

The Interlake Tissue Mills Company, Toronto, whose plant is located at Merriton, Ont., have turned out a new line of paper towels which are produced under the registered name of "Kahki" They are made of sulphate fibre, are strong in texture and very absorbent and are now on the market. The Interlake Tissue Mills are making a most attractive display at the Canadian National Exhibition which opened in Toronto this week and are featuring their superfine crepe paper for decorative purposes. Two expert workers are on hand demonstrating the various effects produced from these papers.

Many Paper Purchasers in Toronto

The opening of the Canadian National Exhibition in Toronto is bringing many visitors to the city during the present week and it is expected considerable new business will be assured as a result. Men in the paper trade who come to the city, are being entertained by the various jobbers and several of whom are making special displays and offering inducements to purchase. Generally, visitors report trade as picking up and the general opinion seems to be that things are now on the upgrade although no boom is expected.

Must Be Made in Ontario

Col. W. H. Price, Provincial Treasurer for Ontario, recently sent out copies of his budget speech and it was discovered that the documents were mailed in envelopes made in another country. The envelopes were known as "British Treasury" and had been purchased for a number of years. The name evidently led the department to think that the envelopes had been made in Canada. Mr. Price, on the discovery of the matter, gave instruction to the King's printer that in future no paper must be used, which is manufactured outside of the province of Ontario. It is the intention of the provincial administration as a whole to protect as far as possible Canadian labor and Canadian industry.

Notes and Jottings of the Trade

T. A. Weldon, vice president of the Provincial Paper Mills, was recently at the Rice Bay club, Long Pointe, Lake Erie, and caught a fine string of bass.

Nelson Gain, of the Canadian Vegetable Parchment Company, has gone to Northern Ontario on a holiday.

W. H. Sherriff, of the Hodge-Sherriff Paper Company, is on an extended business trip to the Pacific Coast.

V. T. Haney, Ontario representative of the Rolland Paper Company, is enjoying a vacation on the Coast of Maine.

A. Huntley, of the Hodge-Sherriff Paper Company, is spending a fortnight at Wasaga Beach on Georgian Bay.

W. S. Barber, secretary of the Provincial Paper Mills, and Mrs. Barber, have gone on a holiday trip to Boston, New York and other points.

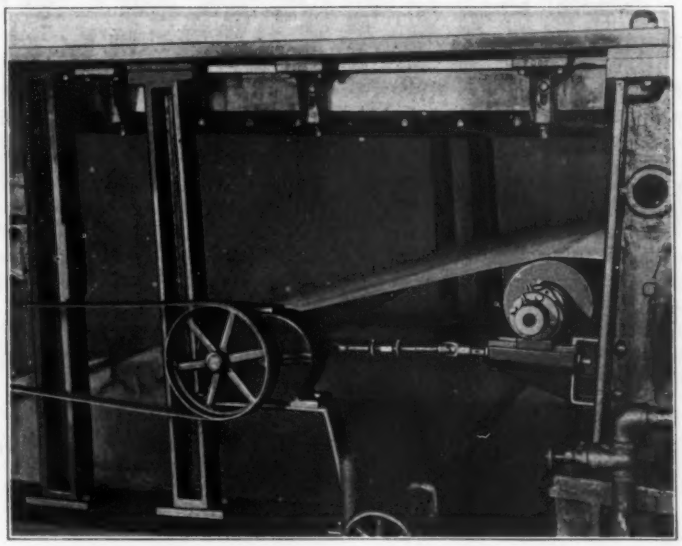
No. 1 machine of the Montrose division of the Provincial Paper Mills, Thorold, was closed down a few days last week owing to a break in the drive shaft of the water wheel.

T. W. Sime, of Toronto, who is a director of the Spanish River Paper Mills, has left on an extended trip to Scotland.

J. M. Finlay, secretary-treasurer of Ritchie and Ramsay, coated paper manufacturers, Toronto, has returned after spending an enjoyable holiday at Atlantic City.

R. T. Houk, Jr., sales manager for the George H. Mead Company, Dayton, Ohio, and party were in Toronto lately on their way to Northern Ontario on a holiday jaunt.

H. P. Reid, of the sales staff of Kilgour Bros., paper bag and box manufacturers, who has been spending the past three weeks at his summer home at Port Severn, has returned to Toronto.



The New Valley Wire Oscillator

To Make Better Paper at a Lower Cost is the ambition of the present day paper manufacturer. As a means to this end we present to you the new Valley Wire Oscillator.

This device takes the place of oscillating suction boxes, the use of which have been prohibited in many cases because of their high price and trouble involved in installing. The Valley Wire Oscillator causes the wire to move back and forth across the suction boxes and prevents the wire from freezing to them. The wire is kept in good condition and not subject to uneven wear thereby reducing the percentage of faulty paper and increasing the life of the wire. It is easily installed, requires little space and is very reasonable in price.

Reduce Wire Expense

The Valley Wire Oscillator is an investment for profit as it reduces the exorbitant wire expense affiliated with the operation of paper machines. Longer life is given to the wire. This means that fewer wires are used in the course of a year. Forced shut downs effecting output of machine and labor costs when replacing new wires are reduced to a minimum.

Write today for further information concernng the Valley Wire Oscillator.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

Box Board Simplification Means Big Saving

By William A. Gately, Department of Commerce, C. S. C.

A matter of considerable interest to every wholesale and retail shipper in the country is involved in an action recently taken by a general conference held under the auspices of the Division of Simplified Practice of the Department of Commerce. This conference was attended by manufacturers of box board, box-makers, shipper organizations, and others, and resulted in the adoption of a series of material reductions in the thickness of box board.

Box board is the product from which paper containers, set-up boxes, and folding boxes are made. Though constituting one of the younger industries of the country, it has risen, in about twenty years, from an unknown product to a point where it now supplies fully 60 per cent of the packaging trade of the country, and the value of its production is about $110,000,000 a year.

Danger to Future Growth

As is frequently the case, such rapid development has been attended by a mushroom growth of hybrid practices and customs which bade fair to limit the further growth of the industry, and for the past few years had been actually reducing profits. One of the most objectionable features of this condition was the excessive variety of thicknesses in which the product has been made. Realizing that this condition arose mainly from lack of proper analysis of the customers' needs, coupled with severe competitive demands and over-zealous salesmanship, the manufacturers of the box board and makers of the boxes called upon Secretary Hoover in May, 1924, for assistance in eliminating this undesirable and excessive variety. Acting at his suggestion, a simplification committee of the industry was appointed to uncover the real facts in the situation through the medium of the survey, and, on the basis of the facts, to bring forth a set of recommendations for submission to the industry at large.

As a result of the survey it was found that box board in all its forms was being made in some 250 different thicknesses, not a few of which varied from one another by as little as one one-thousandth of an inch.

Many Superfluous Thicknesses

Of the 250 thicknesses it appeared that 190 meant practically nothing from the standpoint of utility, strength, durability and appearance. Hence, they were unnecessary and undesirable and could well be done away with to the mutual advantge of producer and consumer.

The gist of the recommendation as submitted by the committee to representatives of all branches of the industry at a general conference called in New York on July 29th was that:

Non-bending boards be reduced from 85 thicknesses to 16;

Bending boards from 80 to 16;

Pasted chip board from 25 to 9;

Container board from 14 to 4;

Folding box board from 20 to 10;

Solid manilas from 20 to 5.

The conference unanimously endorsed these recommendations and voted that they should become effective October 1, 1925.

Realizing that improvements never go into effect of themselves, and appreciating that in a live industry changes are inevitable, a standing committee of the industry, under the chairmanship of George W. Gair, Robert Gair Company, New York City, was then authorized.

Work of Standing Committee

This committee is to supervise the application of the simplified list of thicknesses, to receive such objections to the present recommendations as may develop in the course of the year's tryout, and to bring forth such other recommendations as may be deemed constructive at the annual revision conference.

It is estimated that when the present recommended list of thicknesses is fully in use throughout the industry, it will mean a saving of five million dollars a year to manufacturers, distributors and consumers. On the basis of the industry's present annual business of something over a hundred million dollars, this is a splendid return on a year's investment of time, and a few thousands in money.

In canvassing the present situation, the committee also determined that the excessive number of colors and shades in which box board was made was causing losses, and hence recommended that action be taken on this phase.

To Study Color Question

So the standing committee was authorized to study this question in conjunction with the Textile Color Card Association, and to present a recommendation for six standard shades of box board colors, acceptable to the folding box group, with the understanding that any desired shade may be had on an order of 20 tons, or over. Work will be started on this shortly, and it is hoped to have the recommendations ready for action by the first of the year.

Attached is the list of the simplified thicknesses of box board:

GAUGE LIST NO. 1

for

Non-Bending Boards—Plain Straw—and Plain Chip Boards—Solid Jute, dry finish; Filled Wood Pulp, Filled News Board, Single News Vat Lined Chip and Single White Vat Lined Chip.

Basis 25x40	No. 1 Finish Thick to No. and Rough	No. 2 Finish Medium	No. 3 Finish Thin to No. and Smooth	No. 4 Finish Extra Smooth
No. 35	.064	.060	.057	.051
No. 40	.056	.053	.050	.045
No. 45	.050	.047	.045	.040
No. 50	.045	.042	.040	.036
No. 55	.041	.038	.036	.033
No. 60	.038	.035	.033	.030
No. 65	.035	.032	.030	.028
No. 70	.032	.030	.028	.026
No. 75	.030	.028	.027	.024
No. 80	.028	.026	.025	.023
No. 85	.026	.024	.023	.022
No. 90	.025	.023	.022	.020
No. 95	.024	.022	.021	.019
No. 100	.022	.020	.019	.018
No. 110	.020	.019	.018	.017
No. 120	.018	.017	.016	.015

GAUGE LIST NO. 2

For Bending Boards, Cracker Shell Board, Plain Shell Board, colored one side—Colored Box Board, Chip Back—Colored Box Board, Chip Center, News Back—Any Combination Board with Solid News Back—Any Combination Board with Solid Wood Back.

Single Manila Lined Chip—Single Manila Lined Chip Center News Back—Bleached Manila Lined Chip—Bleached Manila Lined Chip Center News Back—Double Manila Lined Chip and Manila Colored Shell—Colored Suit Box Board Chip Back—Colored Suit Box Board Chip Center News Back—Mist Colored Suit Box Board Chip Back—Mist Colored Suit Box Board Chip Center News Back.

Test Jute—Test Chip Board—Jute Lined Chip Board—Jute Lined Chip Board News Back—Imitation Jute—Filled Jute (Chip Center)—Solid Jute (Bending).

Basis 25x40	No. 1 Finish Thick to No. and Rough	No. 2 Finish Medium	No. 3 Finish Thin to No. and Smooth	No. 4 Finish Extra Smooth
No. 40	.050	.047	.045	.043
No. 45	.045	.043	.041	.038
No. 50	.040	.038	.036	.034
No. 55	.037	.035	.033	.031
No. 60	.034	.032	.030	.028
No. 65	.031	.030	.028	.026
No. 70	.029	.028	.026	.024
No. 75	.027	.026	.024	.023
No. 80	.025	.024	.023	.021
No. 85	.024	.023	.022	.020
No. 90	.023	.022	.020	.019
No. 95	.022	.020	.019	.018
No. 100	.020	.019	.018	.017
No. 105	.019	.018	.017	.016
No. 110	.018	.017	.016	.015
No. 120	.017	.016	.015	.014

Creating a New Standard of Service!

A NEW standard of service has been created in the **"Beloit" Pasting Machine** for light and heavy containers, building and wall boards. Operating at a record pace, it saves time, labor, money, trouble.

In a space of only three feet you can raise and lower the top roll, operate the paper guide, raise and lower the submerging rolls, start and stop the machine.

This automatic mechanism isn't what we have to sell you, but it's the service that it renders that makes it so profitable an investment.

In this day and age, with competition strong, wages high, materials expensive, it will pay you to be equipped with the most modern service that can be had. In the "Beloit" Pasting Machine you secure it.

Send for Special Bulletin for further facts.

BELOIT PASTING MACHINE
Saves Labor ~ Time ~ Money

Beloit Iron Works — **Beloit, Wis., U. S. A.**

Since 1858 Builders of Paper, Board Mill and Container Plant Machinery

GAUGE LIST NO. 3
for
Solid News and Solid Wood Pulp Board

Basis 25x40	No. 1 Finish Thick to No. and Rough	No. 2 Finish Medium	No. 3 Finish Thin to No. and Smooth	No. 4 Finish Extra Smooth
No. 40	.063	.060	.055	.050
No. 45	.056	.054	.050	.045
No. 50	.050	.048	.044	.040
No. 55	.046	.044	.040	.036
No. 60	.042	.040	.037	.033
No. 65	.039	.037	.034	.031
No. 70	.036	.034	.031	.029
No. 75	.033	.032	.029	.027
No. 80	.031	.030	.027	.025
No. 85	.029	.028	.026	.023
No. 90	.028	.026	.024	.022
No. 95	.026	.025	.023	.021
No. 100	.025	.024	.022	.020
No. 110	.022	.021	.020	.019
No. 120	.021	.020	.019	.018

GAUGE LIST NO. 4
Pasted Chip Board

Basis 25x40	No. 1 Finish Medium	No. 2 Finish Thin to No. and Smooth	No. 3 Finish Extra Smooth
No. 10	.212	.200	.180
No. 15	.142	.133	.120
No. 18	.113	.111	.100
No. 20	.106	.100	.090
No. 22	.096	.090	.082
No. 25	.085	.080	.072
No. 28	.076	.071	.064
No. 30	.070	.067	.060
No. 35	.060	.057	.051

GAUGE LIST NO. 5
Container Board

Basis 25x40	No. 3 Finish	Minimum Test	Wt. per 1,000 Square Feet
No. 15	.120	300 lbs.	480 lbs
No. 18	.100	275 lbs.	420 lbs.
No. 23	.080	200 lbs.	340 lbs.
No. 29	.060	175 lbs.	260 lbs.

Furnished in 3, 4, or 5 Ply Pasted and conforms to Railway and Express requirement.

GAUGE LIST NO. 6
and Ream Weight Table

Patent Coated—Solid Manila Back and Solid Manila Board.
Patent Coated—Chip Back—Blue or Colored Back.
Patent Coated—News Back—News Center Manila Back.

Caliper Thickness	Basis 500 Sheets 24x36 (864 Sq. In.)	Basis 500 Sheets 28x44 (1232 Sq. In.)	Basis 500 Sheets 25x40 (1,000 Sq. In.)
.011	154 lbs.	220 lbs.	178 lbs.
.012	168 lbs.	240 lbs.	194 lbs.
.013	182 lbs.	260 lbs.	210.60 lbs.
.014	189 lbs.	270 lbs.	218.75 lbs.
.015	195 lbs.	278 lbs.	225.69 lbs.
.016	208 lbs.	297 lbs.	240.70 lbs.
.017	221 lbs.	315 lbs.	255.78 lbs.
.018	230 lbs.	328 lbs.	266.20 lbs.
.019	238 lbs.	340 lbs.	274.88 lbs.
.020	245 lbs.	350 lbs.	283.56 lbs.
.021	252 lbs.	360 lbs.	291.66 lbs.
.022	264 lbs.	377 lbs.	305.55 lbs.
.023	276 lbs.	394 lbs.	319.44 lbs.
.024	288 lbs.	412 lbs.	333.33 lbs.
.025	300 lbs.	428 lbs.	347.21 lbs.
.026	312 lbs.	445 lbs.	361.10 lbs.
.027	324 lbs.	463 lbs.	374.99 lbs.
.028	336 lbs.	480 lbs.	388.88 lbs.
.029	348 lbs.	497 lbs.	402.77 lbs.
.030	360 lbs.	513 lbs.	416.65 lbs.
.032	384 lbs.	544 lbs.	444.48 lbs.
.034	408 lbs.	578 lbs.	472.26 lbs.
.040	460 lbs.	660 lbs.	532.40 lbs.

GAUGE LIST No. 7 and REAM WEIGHT TABLE
Patent Coated—2 Sides

Caliper Thickness	Basis 500 Sheets 24x36 (864 Sq. In.)	Basis 500 Sheets 25x40 (1,000 Sq. In.)
.011	159 lbs.	184.02 lbs.
.012	174 lbs.	201.38 lbs.
.013	188 lbs.	217.59 lbs.
.014	196 lbs.	226.85 lbs.
.015	202 lbs.	233.79 lbs.
.016	216 lbs.	250 lbs.
.017	229 lbs.	265.04 lbs.
.018	239 lbs.	276.62 lbs.
.019	247 lbs.	285.88 lbs.
.020	255 lbs.	295.13 lbs.
.021	262 lbs.	303.24 lbs.
.022	275 lbs.	318.28 lbs.
.023	287 lbs.	332.17 lbs.
.024	300 lbs.	347.22 lbs.
.025	312 lbs.	361.11 lbs.
.026	325 lbs.	375.44 lbs.
.028	350 lbs.	404.32 lbs.
.030	375 lbs.	433.20 lbs.

GAUGE LIST NO. 8
and Ream Weight Table
for
Double Manila Wood Pulp Filled Board

Caliper Thickness	Basis 500 Sheets 24x36 (864 Sq. In.)	Basis 500 Sheets 28x44 (1232 Sq. In.)	Basis 500 Sheets 25x40 (1,000 Sq. In.)
.015	180 lbs.	256 lbs.	207.8 lbs.
.016	192 lbs.	273 lbs.	221.6 lbs.
.017	204 lbs.	291 lbs.	236.2 lbs.
.018	216 lbs.	307 lbs.	249.2 lbs.
.019	219 lbs.	311 lbs.	252.4 lbs.
.020	230 lbs.	327 lbs.	265.4 lbs.
.021	236 lbs.	337 lbs.	273.5 lbs.
.022	244 lbs.	348 lbs.	282.5 lbs.
.023	253 lbs.	361 lbs.	293 lbs.
.024	264 lbs.	376 lbs.	305.2 lbs.
.025	275 lbs.	392 lbs.	318.2 lbs.
.026	286 lbs.	408 lbs.	331.2 lbs.
.027	297 lbs.	424 lbs.	344.2 lbs.
.028	308 lbs.	439 lbs.	356.3 lbs.
.029	312 lbs.	445 lbs.	361 lbs.
.030	315 lbs.	449 lbs.	364.4 lbs.

RULES FOR FIGURING WEIGHT OF ODD SIZES

Grades under gauge lists 6, 7 and 8.

Upon referring to the gauge list on grade in question.

Use the decimal table, which is on the basis of 1,000 sq. inches and is accurate. First find the square inches in the sheet wanted and multiply same by the decimal in 25x40 table above, then point off decimals and you will have the correct weight of odd size per ream.

EXAMPLE: 22x34, .018 Patent Coated. (See gauge list 6.)
22x34=748 sq. in. x 266.20=199 pounds per ream.

Boston Looks For Improvement Soon

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, August 24, 1925.—Despite another quiet week in most branches of the Boston paper trade, with jobbers buying only for their actual needs, there is no denying that all forces in the business here are mobilizing their ranks and focussing all attention on "better business in the fall." Frankly, it's the only thing that can be done right now. So far as actual business goes there is nothing to cause any flurry in the trade here.

John Carter & Co., Inc., one of the oldest and best known houses in the business, make it plain that right after Labor Day they are going to begin a drive for more printers business. This is the trend of many other merchants. The general apathy that has seemed to prevail in these parts for some time, appears to be fading. Somewhat of the old-time fighting spirit seems to be present.

This week's survey shows paper and rag stock houses getting a little more demand for their goods. This is a most encouraging sign for this branch of the trade has had a long, hard pull, according to one who is in close touch with this particular trade. There is reported an especially good demand for kraft and heavy bagging. Mills are reported as busier and are gradually increasing their stock. Box board mills continue to buy stock as they report a fairly good business at present.

Coarse papers are firm, with kraft mills busy with orders from jobbers whose stock was permitted to get too low. Fine paper houses report "business as good as can be expected at this time of the year" with every indication that the trade will pick up in the near future. Fall cataloging has started and printing papers, it is reported, will be in big demand starting, probably next week. The tissues and wax papers keep at a steady level with roofing papers speeding up a bit with fine fall trade in sight, if queries are any barometer.

Bronze Medals for Paper Manufacturers

The Canadian paper manufacturers, who made an exhibit at the British Empire Exhibition at Wembley, London, Eng., last year, have received from the directors certificates of appreciation for having participated in the success of the show, accompanied by handsome bronze medals which are much appreciated.

BLEACHED and UNBLEACHED
SULPHITES
KRAFT PULPS
GROUND WOOD
NORRONA
PULP STONES

PERKINS-GOODWIN CO.
33 WEST 42nd STREET
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PAPER
PRINTING PAPER
of
EVERY DESCRIPTION

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

St. Louis, Mo.—The Schleicher Paper Box Company, 1811 Chouteau avenue, has plans under way for the erection of a new two-story and basement plant on Bingham street, estimated to cost about $100,000, with machinery.

Green Bay, Wis.—The Northern Paper Mills Company has purchased a water power site at White Rapids, Mich., for a proposed hydroelectric generating plant for mill service, to develop an initial output of about 16,000 h.p. A first unit of 8,000 h.p. will proceed at an early date. The entire project is estimated to cost in excess of $750,000 with equipment. J. G. Rosebush is president.

Sioux Falls, S. D.—The Sioux Falls Paper Company, 204 East 10th street, has completed plans for the erection of a new three-story building 78x150 ft., to be used primarily for storage and distributing service, estimated to cost $85,000, with equipment. Perkins & McWayne, Paulton Building, are architects. F. J. Kimball is president.

Hoboken, N. J.—The Hoboken Paper Box Company, 401 13th street, is said to be planning the early rebuilding of the portion of its plant destroyed by fire on August 17. An official estimate of loss has not been announced.

Madison, Me.—The Great Northern Paper Company will make extensions in its hydroelectric power plant at Dolby Mills, and will install new machinery for a capacity of about 7,800 hp., including hydraulic apparatus. A contract for prime movers has been given to the William Cramp & Sons Ship and Engine Building Company, of Philadelphia, Pa.

St. Louis, Mo.—The St. Louis Label Works, Inc., 925 North 11th street, manufacturer of paper specialties, has plans in progress for the erection of a new three-story and basement plant at Glasgow and North Market streets, to be 80x185 ft., brick and reinforced concrete, estimated to cost close to $100,000, with equipment. L. Haeger, 3844 Utah Place, is architect.

Boston, Mass.—A. A. Frederick, paper mill supplies, has filed plans for the construction of a new one-story plant at 131 Halleck street, estimated to cost about $17,000. Work will begin at once.

Chicago, Ill.—The Transo Envelope Company, 3512 North Kimball avenue, manufacturers of paper products, has completed plans and will begin the erection of a new one-story plant, 65x240 ft., estimated to cost close to $55,000, including equipment.

Cincinnati, Ohio—The Sabin Robbins Paper Company, Clay and Marietta streets, Middletown, Ohio, has awarded a general contract to the J. R. Stevens Company, First National Bank Building, Middletown, for extension and improvement in its mill and distributing plant at Crystal Springs and Ludlow avenues, Cincinnati, estimated to cost $50,000.

Chester, Pa.—The Scott Paper Company, manufacturer of tissue papers, is reported to be planning for extensions in its plant. The company will acquire adjoining property, it is said, heretofore owned by the Alpha Boat Club, held at $200,000, for the expansion.

Lambertville, N. J.—Work is under way on remodeling and improving the local Perseverance Paper Mill, recently taken over by new interests, with equipment to be provided for the manufacture of paper bags and containers.

Circleville, Ohio—The Midwest Box Company, 111 West Washington street, Chicago, Ill., has awarded a general contract to E. J. Bergerson, 1940 Lawrence street, Toledo, Ohio, for extensions and improvements in its local paper-box manufacturing plant, comprising a two-story and basement addition, 75x180 feet. Work will soon begin. The DeVore Company, Toledo, is architect.

Indianapolis, Ind.—The Inland Box Corporation, organized at Anderson, Ind., has leased a one-story building, 100x800 feet, at West Morris street and the Belt Line Railroad, and will establish a new plant here for the production of paper boxes and containers. H. C. Krannert, formerly connected with the Sefton Company, Anderson, is president of the new company. George E. Bomberger is vice-president.

Syracuse, N. Y.—The Jordan Paper Box Company, 242 South Salina street, has plans under way for extensions and improvements in its two and three-story plant, for increased capacity. It is understood that additional equipment will be installed. LaVaute & Mulranen, Herald Building, are architects. Charles L. Jordan is president.

Fort Frances, Ont.—The Backus-Brooks Company, Minneapolis, Minn., has plans under way for the proposed addition to its local pulp mill, estimated to cost in excess of $1,250,000, with machinery, and it is said that work will begin early in the fall. The company will also extend its hydroelectric power plant in this section, with new buildings and equipment to cost more than $750,000.

New Companies

Miami, Fla.—The New York Blue Print Company has been incorporated with a capital of $20,000, to manufacture blue print and other papers, and deal in same. The incorporators are Charles Brunning and Thomas J. Gilmore, both of Miami.

Chicago, Ill.—The Fort Dearborn Paper Box Company, 2034 Canalport avenue, has been incorporated with a capital of $40,000, to manufacture boxes, containers, etc. The incorporators are James H. Gillison, Sampel Blair and Edward B. Sode.

Red Bank, N. J.—The Red Bank Paper Company has been incorporated with a capital of $100,000, to manufacture and deal in paper products. The incorporators are Russell P. and C. Leslie Reckles, and William I. Spain, all of Red Bank.

Auburn, Me.—The F. E. Norton Sons Company has been incorporated with a capital of $10,000, to manufacture and deal in fibreboard and kindred board stocks. A. L. Parent, Lewiston, Me., is president.

St. Louis, Mo.—The company referred to in these columns, issue of June 25, as the "Great Lakes Company, Inc.," properly should be the Grand Lake Company, Inc., a going organization incorporated under the laws of Maine to manufacture paper bags, sacks, etc., with plant at Rumford, Me. The company has filed notice of organization, under date of June 3, to operate in Missouri. Offices are maintained at 100 East 42nd street, New York. A. L. Moore is secretary.

This invariable "rubber stamp" report has just come through on the Timken Bearings in a Westinghouse Gear Reduction unit used by the Washington Pulp & Paper Co.

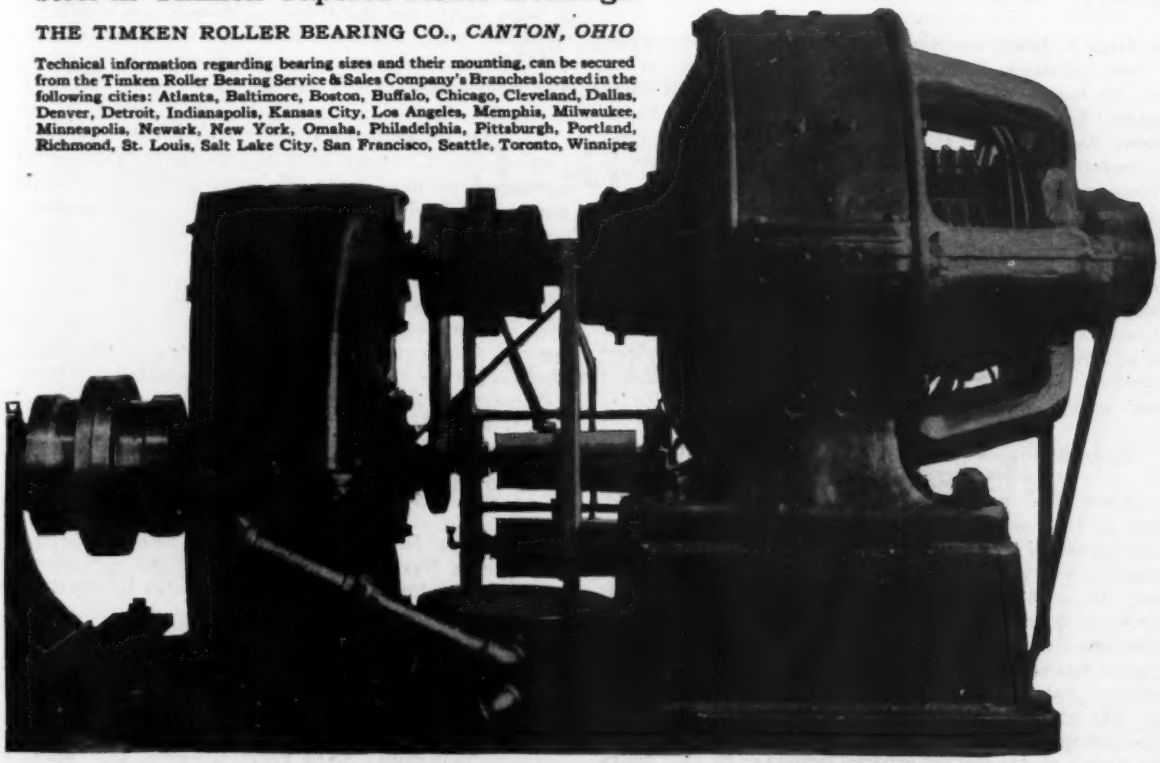
"The bearings were in first class shape" after 3 years of operation, 24 hours a day, 6 days a week.

The gears were also in excellent condition, says the report, indicating that alignment was nicely preserved by the greater load area of Timkens and their dual ability to carry thrust along with radial loads.

Timken results have their basis in Timken steel, produced only by Timken itself. No machine contains any material finer for its purposes than the steel in Timken Tapered Roller Bearings.

THE TIMKEN ROLLER BEARING CO., *CANTON, OHIO*

Technical information regarding bearing sizes and their mounting, can be secured from the Timken Roller Bearing Service & Sales Company's Branches located in the following cities: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Denver, Detroit, Indianapolis, Kansas City, Los Angeles, Memphis, Milwaukee, Minneapolis, Newark, New York, Omaha, Philadelphia, Pittsburgh, Portland, Richmond, St. Louis, Salt Lake City, San Francisco, Seattle, Toronto, Winnipeg



TIMKEN *Tapered Roller* **BEARINGS**

New York Trade Jottings

The Schranz and Bieber Company have removed from Jersey City to 3-5-7 West 22nd street, New York City.

* * *

R. C. Tilden of the Sales Department of the International Paper Company will leave tomorrow on his annual vacation, most of which will be spent at Lake Placid.

* * *

Fire last Sunday afternoon did $125,000 damage to a one-story brick building owned and occupied by the Rushmore Paper Company, at 405 Gardiner avenue, Brooklyn.

* * *

The J. J. McCabe Lathe and Machinery Corporation, Singer Building, have manufactured at their Norfolk, N. Y., plant, a two inch double lathe which has been recently installed by the St. Regis Paper Company.

* * *

The Texas Gulf Sulphur Company has declared a quarterly dividend of $2 a share payable on September 15 to stockholders of record August 31. This establishes the issue on an $8 annual basis compared with $7 previously paid.

* * *

A lease covering 45,000 square feet of space in the Bush Terminal Company building, South Brooklyn, has been renewed for a period of three years by the Continental Paper and Bag Mills Corporation. The space rented is divided so that the company occupies two floors with 22,500 square feet on each.

* * *

The Salesmen's Association, which has omitted its weekly luncheons and round-table at the Hotel Belmont during the summer months, will resume its sessions next month. There will be no gathering on Labor Day but the first luncheon will be held on September 14. Thereafter the sessions will be held regularly.

* * *

Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association, left last night for Erie, Pa., where he will attend the convention of the agents of the Hammerhill Paper Company. Secretary E. H. Naylor of the Writing Paper Manufacturers' Association will also be in attendance. The agents held their executive meetings yesterday and the general program of the convention will extend over today and tomorrow.

* * *

D. L. Sherk (Ph. D., University of Wisconsin, 1920) and K. Cheng Hu (B. S., University of Illinois, 1925) have recently been hired by the Research Department of the Oxford Paper Company, Brooklyn, N. Y., as Research Chemist and Assistant Chemist, respectively. Dr. Sherk has worked as chemist during the past five years in the wood resin and turpentine extraction plant of the Acme Products Company in De Quincy, Louisiana. He is now in charge of work, dealing with the utilization of sulphite waste liquor.

Experiments With Partially Pulped Esparto

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 26, 1925.—Paper making stock new to America has just been tried out in the experimental paper mill of the Bureau of Standards. The material is partially pulped "esparto"—a wild grass indigenous to southern Spain and northern Africa. Abroad it is known for its fine paper making qualities. It can now be delivered partially pulped to American mills at attractive rates. Since it is now economical to consider it in American paper making, the Bureau of Standards made up on a semi-commercial scale samples of esparto papers with the imported stock. The laboratory tests of the finished product are now ready for the American industry.

The Bureau reports that the imported samples of partially pulped esparto gave, after cleaning, a 60 per cent. yield of paper-making fiber, (and that the resulting esparto paper was stronger than soda pulp paper.) In view of its reputation for superior printing qualities and suitability for book-making, its possible introduction will be awaited with interest by the paper and printing trades.

While paper may be made from any kind of fiber, there are but few from which it can be made economically. Esparto is one of these.

Charles W. Ferguson Dies

ROCHESTER, N. Y., August 24.—Charles W. Ferguson, head of the Daly & Ferguson Paper Company, of 59 Mill street, died on Tuesday morning, August 11, at his home, 57 Appleton street. Mr. Ferguson was born in this city on February 14, 1863, the son of the late Thomas and Jane Ferguson and received his education in this city.

In 1892 he established the wholesale paper business in this city with Henry L. Daly and for the last twenty years has conducted the business alone. He was a life member of St. Luke's Episcopal Church and a member of Rochester Lodge, Hamilton Chapter, R. A. M.; Monroe Commandery, Damascus Temple and Rochester Lodge of Elks. He was also a member of the Empire State Paper Trades Association.

Raw Stock Consumed by Japanese Mills

WASHINGTON, D. C., August 26, 1925.—The mills of the Japanese Paper Association, according to reports received by the Paper Division, of the Department of Commerce, report a consumption during April of 2,727,517 cubic feet of wood, 1,026 short tons of rags, 583 tons of straw, and 1,260 tons of mechanical pulp. Of the pulp consumed, 12,289 tons of chemical and 16,245 tons of mechanical pulp were manufactured by mills of the association.

The report also states that the consumption of the mills during May consisted of 1,564 tons of rags, 583 tons of straw, 1,069 tons of waste paper, and 20,164 tons of chemical and 19,815 tons of mechanical pulp. The report states that 12,938 tons of chemical and 18,547 tons of the mechanical pulp consumed by the paper mills were manufactured in their own plants.

G. W. Duffney Drowned at Waterford

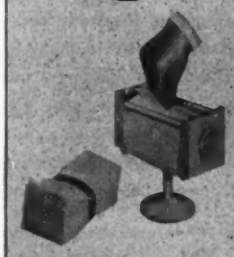
COHOES, N. Y., August 22, 1925.—George W. Duffney, master mechanic at the plant of the Mohawk Papermakers in Waterford, was accidentally drowned August 19 in the rear of the plant. The body was not recovered until twenty-four hours later. Mr. Duffney, who was a native of Mechanicsville, has been connected with various paper mills in this section for a number of years. The deceased was measuring the water in the canal back of the plant when a rowboat used by the employes of the firm worked loose and began to drift down the stream. Mr. Duffney, an excellent swimmer, plunged into the water to secure the boat and had gone only a short distance from shore when he was seen to sink after shouting for help. The entire force of the plant was turned out to search for the body. The survivors are a wife and one daughter.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 26, 1925.—The Bureau of Supplies and Accounts, Navy Department will receive bids September 1 for 6,000 reams of 16x21, 18, white printing paper for the Brooklyn navy yard.

The Government Printing Office has received the following bids for 14,500 pounds of 21x32 No. 16 white bond paper; R. P. Andrews Company, at 18 cents per pound; Barton, Duer & Koch Paper Company, 15.45 cents; American Writing Paper Company, 17 cents; Maurice O'Meara Company, 22.5 cents; Old Dominion Paper Company, 16.49 cents; Aetna Paper Company, 15.37 cents; and Barton-Hobart Paper Company, 16.75 cents.



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PAPER TRADE JOURNAL
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HENRY J. BERGER, Editor

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BUSINESS RECESSION CHECKED

Business recession for the most part has apparently been checked, the First National Bank of Boston finds after a general survey of the situation which has just been completed and there are definite indications of an upturn. Mid-summer dullness is giving place to growing confidence, rising prices, and increased orders and production.

Practically all basic industries are on a higher production rate than a year ago, while activities in the building, automobile, tire, and silk industries are the highest on record for this period of the year. Operations in the steel industry, having declined steadily since March, have apparently touched bottom, judging by the increase of four blast furnaces blown in the first week in August, and the smallest decrease in unfilled orders since the decline began. Prices of steel are turning upward in anticipation of heavier buying in the fall, including railroad equipment, which has been inactive for the greater part of the year. Recent price reductions on motor vehicles have stimulated buying to the extent that operations have been well sustained even during the summer months. Despite labor difficulties and the heavy construction volume of the past few years, unprecedented operations in the building industry continue.

In the cotton industry the uncertainty of the crop outlook has been partially compensated by sharp declines in the importation of cotton cloths. Operations in the silk industry continue on a heavy scale in the face of labor troubles at Paterson. The woolen industry, through a reduction in wages and slight declines in raw material prices, has reached a lower cost basis, and price reduction in worsteds by the leading factor is expected to stimulate sales, which have been distinctly sub-normal. Footwear markets show improvement, particularly on the less expensive grades, and fair orders are booked for fall and winter delivery. The paper industry is enjoying better than average conditions for this season of the year and anticipates a heavy volume of business during the last quarter.

Following steady declines for a period of four months, prices have advanced consistently since May, and Bradstreet's Index is 12.8 per cent above a year ago,—the highest since November 1920. Indications are that prices will remain firm with an upward trend for the remainder of the year, but any tendency toward inflation will probably be checked by increased production and imports, together with resistance by consumers. Small inventories and prompt adjustment of manufacturing operations to market requirements contribute stability to present levels.

Money rates are firm in response to seasonal influences, although ample credit is available for all commercial needs. The recent reduction in the discount rate of the Bank of England has been without market influence here. Commercial borrowings continue on a moderate scale, with prospects for larger volume in the fall.

With seasonal slackness past, the business movement is gathering momentum and prospects are good for a healthy condition during the remainder of the year; sentiment is fortified by a steady improvement in agricultural lines and prospects for a substantial reduction in taxes.

The market is in better position than is customary at this season of the year. Prices have remained steady, and concessions have been slight. While world markets for mechanical and chemical pulp have not been active, there has been no appreciable recession and future prospects are encouraging. Book paper is enjoying a fair demand at firm prices for immediately delivery. Quietness rules in the fine paper market, partially because of the restraining influence of the recent increase in postal rates on direct by mail advertising. Coarse papers are in fair demand, while news print has been in greater call than usual for the summer months. News print output in the United States for the first six months of the year totaled 760,464 tons, about the same as a year ago, while Canadian mills increased their output 10 per cent for the same period. News print production has been followed closely by shipments and the inventory position of the producer is healthy. With the paper market showing a strong undertone during mid-summer, prospects for the fall are better than average.

EMPLOYMENT IN THE PAPER INDUSTRY

The quiet situation in the pulp and paper industry continues to be reflected by the employment and wage figure in the industry for June just made public by the Bureau of Labor Statistics of the Department of Labor at Washington D. C.

Two hundred paper and pulp plants reported their employment in May at 53,945, decreasing in June to 52,924, a decrease of 1.9 per cent. The payrolls in these plants also decreased from $1,404,585 in May to $1,367,636 in June, a decrease of 2.6 per cent.

The Bureau also received replies from 167 paper box plants which reported their employment in May at 16,469, decreasing in June to 16,302, a decrease of 1 per cent. The payrolls in these plants also decreased from $355,264 in May to $349,088 in June, a decrease of 1.8 per cent.

Replies were also received by the Bureau from 174 paper and pulp plants which reported their employment in June of last year at 50,559, decreasing slightly in the same month of this year to 50,448, a decrease of 0.2 per cent. The payrolls in these plants showed very little change. In June of last year the payroll was $1,305,499 increasing very slightly in the same month of this year to $1,305,704, an increase of less than one-tenth of one per cent.

One hundred and fifty-seven paper box plants reported their employment in June of last year at 15,848, decreasing the same month of this year to 15,574, a decrease of 1.7 per cent. The payrolls in these plants also decreased from $337,867 in June of last year to $335,209 in June of this year, a decrease of 0.8 per cent.

Western Board Division to Meet at Elkhart

The next semi-annual meeting of the Western Board Division of The American Pulp and Paper Mill Superintendents Association will be held at Elkhart, Indiana, on Friday, September 4, 1925, at the Elkhart Hotel.

The secretary of the association, William H. Sievert, of the Michigan Carton Company, Battle Creek, Mich., has sent out the following notice for the meeting:—

"We want all the Superintendents to be there, and bring their Managers if possible, as this is going to be a real meeting, and the Officers are working hard to make it one of the best ever held.

"The business meeting for the election of Officers and all other matters which may come up, will be held in the forenoon. After lunch we have been invited to visit all of the Mills in Elkhart to see how they make Board. There will be a banquet in the evening with entertainment and talks on subjects that will be of interest to every one attending.

"Be present to help make it a success, and meet the bunch.

"Mail in your reservations to the Elkhart Hotel, or the Secretary early and help the committee in making their arrangements."

Another Paper Mill For Portland, Ore.

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 21, 1925.—The New Westminster Paper Mills of British Columbia have plans under way for the establishment of a plant at St. John's, a suburb of Portland. The site chosen is that of a shipbuilding plant used during the war on which stands a building at present 50 x 150 feet which will be utilized for the paper manufacturing mill. Later another structure as large or larger will be erected to meet the future needs as the mill interests expand.

The company expects to increase its market possibilities considerably by entering the Portland territory, and will at the beginning limit their activities to paper napkins, towels and tissue products.

Only Paper Mill in South Africa Liquidates

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 26, 1925.—A report from Trade Commissioner Stevenson at Johannesburg states that the Premier Paper Mills, Ltd., which has been the only firm manufacturing paper in the Union of South Africa has been placed in provisional liquidation by the local courts.

According to reports the company has been unable to discharge its liabilities since the commencement of operations three years ago. Whether the business will be carried on after the liquidation proceedings has not been announced, the despatch says, but it is not considered likely. The mill specialized in the manufacture of wrappings.

A. G. Wightman To Go With Knowlton Bros.

WATERTOWN, August 24, 1925.—A. G. Wightman, superintendent of the Hawthorne Paper Company mill at Kalamazoo, Mich., will become superintendent of the Knowlton Bros., Inc., mill in this city.

Mr. Wightman will succeed Homer Stafford, who has been superintendent of the local mill for a number of years and who is to resign.

Sabin Robbins Co. To Move to Cincinnati

[FROM OUR REGULAR CORRESPONDENT]

MIDDLETOWN, Ohio, August 24, 1925.—The Sabin Robbins Paper company, of this city, Sabin Robbnis, Jr., president, has acquired the entire plant of the Clifton Springs Distillery, consisting of 17 acres of land at the corner of Spring Grove avenue and Ludlow street, Cincinnati, which is now being remodeled for use of the local paper jobbers and will be occupied some time next summer.

The old quarters of the Sabin Robbins company on the Big Four Switch on Clayton and MaryEtta streets, in Lakeside, are to be vacated next summer and will be sold, although at this time no negotiations for the sale of the property have been completed.

In explanation of the purchase of the Cincinnati property, Mr. Robbins stated that the Sabin Robbins company has been overcrowded in its present quarters for some time, and this property will provide more than ample facilities for their rapidly expanding business.

The J. R. Stevens company, of this city and Cincinnati, has the contract for the work of remodeling the structures.

Middletown will be sorry to lose the Robbins Paper company, as it is one of the older establishments of the city, having been founded nearly 50 years ago by Sabin Robbins, Sr.

The company conducts a paper jobbing business and advertises that it carries the largest stock of paper seconds in the United States, all papers being carefully sorted and guaranteed in good, printable shape.

The Sabin Robbins Paper company is headed by Sabin Robbins, Jr., president; Douglas R. Robbins, secretary and treasurer; John Seagraves, vice-president; D. W. Whitelaw, vice-president, and C. A. Dickerson.

Offices and branch warehouses are maintained in St. Louis, Detroit, Cleveland and Cincinnati.

The Clayton and MaryEtta street property of the company is a valuable warehouse site, which, it is expected, will be speedily snapped up by some concern having need of a property of this kind.

Pulp Rafting Will End in August

[FROM OUR REGULAR CORRESPONDENT]

ASHLAND, Wis., August 24, 1925.—The last raft of Canadian pulp wood from Nipigon bay was towed to Ashland last week for this season. While much of the best weather of the season occurs in September and October, at least one heavy storm may always be expected in September, and the rafting season usually ends in August.

The Consolidated Water Power and Paper Company has brought the bulk of the rafts across Lake Superior this season, the Combined Locks Paper Company of Appleton bringing one raft to Washburn. When the rafting season ends, at least a dozen cargoes of ground pulp for the Wisconsin paper mills will be brought on barges from Port Arthur to Ashland this fall. The Menasha Printing and Carton Company of Menasha, Wis., has purchased the plant of the Ashland Paper company.

Reduced Rates on Pulp Requested

Further submissions on the question of revision and equalization of the freight rate structure throughout Canada have been filed with the Board of Railway Commissioners. Readjustment downward of freight rates on pulpwood and wood pulp is requested by the Canadian Pulp and Paper Association, who submit that the present rates on these commodities are now excessive. Relief from alleged excessive rates on groundwood pulp to New England and Northern New York State regions is also asked by the Northern Ontario Light and Power Company.

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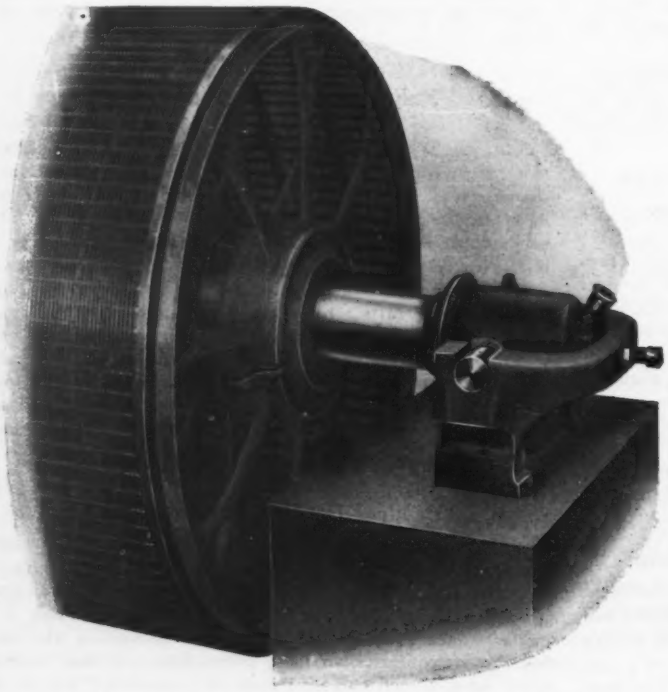

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Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Handling Pulp For News Print*

Mills for the manufacture of standard news print are considered to consist of three main operating units: The sulphite mill, the groundwood mill and the news print mill. Seasonal variations in the prices of sulphite or groundwood may from time to time make the purchase of either of these apparently economical. But the improved control secured in a mill where the three units are located in the same place under one management makes the combination of the three recognized as standard when speaking of news print plant. Most of those now building are constructed in that way.

Center of Fiber Industry

The important feature of the three unit news print mill is that the fiber quality is controlled in the department where it is originally manufactured and no change of fiber quality is attempted elsewhere in the plant. If it is determined that the groundwood is not satisfactory the change is made in the grinder room. If the sulphite is not satisfactory the change is made in the cooking of the digesters. There is no other machinery provided in the mill for changing the fiber quality. The best practice even opposes the use of steam or extra sulphite either to free or to strengthen the news print stuff.

The handling of pulp in a news print plant from either the digester or the grinder to the paper machine stuff chest falls naturally into two parts. The treatment of either groundwood or sulphite until the pulp is of a quality ready to be mixed for news print paper is one part. The mixing of the two kinds of pulp is the other part.

Much of the treatment of groundwood and sulphite pulp from grinder or degister to the chests ready for mixture is the same for both pulps.

Groundwood pulp is manufactured continuously. There is never any interruption of the flow from the grinders. The pulp is continuously supplied to the screening and refining machinery.

Water the Natural Conveyor

Water is the natural conveyor for pulp in the news print plant. The amounts of water in which the fibers are held in suspension vary in different parts of the mill. In all parts the pulp is moved with water either by gravity or with pumps. The closed system in use in news print mills provides a supply of water in which is held in suspension large amounts of very fine pulp fibers. The use of this water, or white-water, over and over again prevents the loss of this fiber. In the grinding process, and immediately after, the pulp is diluted with a large proportion of this white-water so that the usual consistency in the first machines or bull screens is about ½ of 1 per cent.

The bull screens are used to remove slivers, slabs and large pieces of wood from the pulp leaving the grinders. Some mills dispense with the bull screens and use a slab grating near the grinders, taking out the slivers with the coarsest fibers elsewhere.

When the Coarse Fibers Should be Removed

There is considerable difference of opinion as to when the coarse fibers should be removed from the rest of the pulp and the answer for different mills depends on whether the coarse fibers are to be used for a board machine or refined. In this discussion it is assumed that there is no possible disposition for coarse fibers than those used for news print manufacture.

A reservoir is provided between the bull screens and the next machines which are usually the knotters. In this reservoir more white-water is added to the pulp until the consistency is a little thinner than ½ per cent. In the knotters the very coarsest fibers are taken out and go from the knotters to a chest reservoir which will be discussed further on. The accepted stock passes to another reservoir which leads to the fine stock screens.

At this point the treatment of groundwood and sulphite becomes practically the same with variations in the type of machinery used for the different kinds of pulp. The two kinds of pulp are however handled separately throughout until they are ready to be mixed for the news print machines.

To return to the preliminary treatment of sulphite pulp. Cooking sulphite pulp is an intermittent process. A mill manufacturing two hundred tons of news print would blow or discharge from the digesters ten tons every four hours. After this the pulp must be washed. There is usually a discharge from the blow-pits of ten tons every four hours to correspond with the cooking. The pulp handling process or screening is continuous and there must be between the blow pits and the screens a reservoir large enough to accumulate a supply of pulp to keep the capacity of the screen room occupied throughout the twenty-four hours. In addition to this, digesters must be emptied when the cooks are completed or the pulp may spoil and so the reservoir must be large enough to take care of the pulp during shut downs in the screen room for repairs. The consistency in the reservoir is what the particular conditions may require, usually thicker than 2 per cent.

The next machine for sulphite is a knotter to take out the coarse fibers and knots and the pulp runs through this at about 7/10 of 1

* From *The Journal*, Grand Mere, Que.

per cent. The knots and coarse fibers go to a reservoir and are handled as are the coarse groundwood fibers.

Pulp, either groundwood or sulphite, goes from the knotters to the fine screens. These are usually centrifugal. The inward flow rotary screen has not yet been applied to the pulp handling operation. The holes in the centrifugal screen plates run from 0.05 to 0.07 of an inch in diameter. The consistency of the pulp is about 3/10 of 1 per cent. The pulp which passes the plate is news print quality. The rejected pulp is usually screened again at a lower consistency and more fibers are secured which are fit for news print. The tailings from this screen go to join the coarse fibers in the reservoir.

The coarse fibers sent to the coarse fiber reservoir are drawn from this reservoir to some type of a refiner. It is usually necessary to thicken the supply to the refiner as most of them run at about 3 per cent to 4 per cent consistency of supply. There are a number of refiners and some are found better for groundwood and others better for sulphite while some are used on both. The two kinds of pulp are, of course, refined separately.

The refined pulp is added to the stock supplied to the fine screens. The coarseness of the pulp from the grinders or digesters and the action and number of the refiners must be adjusted to each other. In a system such as is described no fiber is lost. It keeps going around and around until it is fine enough to pass the fine screens which handle the news print quality fiber.

It must be noted that this refining has no effect on the majority of the fibers as only the coarse fibers pass through the refiners and only for the purpose of reducing them to the same quality as the mass of the fibers which comes from the digester or grinders.

The discharge from the fine screens is about ¼ of 1 per cent in consistency. The desirable consistency for the news print mill is around 3 per cent. Thickeners or deckers are used to remove water from the pulp. There are two principal types: the old fashioned couch-roll type and the pneumatic type. The former may be used on either groundwood or sulphite. The pneumatic can only be used on chemical pulps, in this instance the sulphite.

After passing the thickeners the groundwood or sulphite pulp goes to separate storage chests.

Second Part of the Handling

The second part of the handling of pulp from the grinders or digesters to the news print machine chest begins at this point. It is the practice to handle the two kinds of pulp for mixing entirely in slush form. There are several systems for this purpose but they all depend to a great extent on the Trimbey regulator. This device controls, within limits, the consistency of the pulp. If the pulp is kept at a consistency higher than a certain specified figure or lower than another specified figure, for which points the machine is regulated the Trimbey adds to the unregulated stock a greater or less amount of white water as the varying consistency of the pulp demands. This makes the pulp a certain specified consistency when regulated.

The pulp as it comes from the thickeners is classed as unregulated and is a little thicker than 3 per cent. The regulated stock is 2.7 per cent. This is done to both groundwood and sulphite. The stock in the chests for regulated groundwood and sulphite is now ready to mix for the paper machines.

The general principle of mixing so that the per cent of sulphite in the paper may be accurately controlled is the same in all systems. A mixing chest is provided and calibrated. Instruments show the level of the stock in the mixing chest. The sulphite of known consistency is run into another calibrated chest and a certain specified amount taken. This is dumped into the mixing chest. The groundwood of known consistency is then run into the mixing chest to fill it to a certain level. The proportions of sulphite and groundwood are thus accurately controlled. The mixing may be accomplished by means of pumps which continuously draw the pulp from the bottom of the mixing tank and put it back at the top. This mixing process goes for about five minutes. If it is desired to put in any color, alum, size, clay or other material of that kind there is a hopper on the pipe drawing from the bottom of the tank and all these are poured in through the hopper. When the mixing has gone on long enough the valve in the bottom of the mixing chest is opened and the mixed stuff, ready for the news print machine, is dumped into the machine chest.

Little Clay or Size Used

It should be noted that the amount of clay or size put in standard news print, 24 x 36 32/500, is negligible. There is some color and usually alum although they try hard to cut out the alum.

This describes briefly the handling of groundwood and sulphite pulps from the digester and grinder to the machine chest in the modern complete news print mill. Mills which make either groundwood or sulphite alone and buy the other vary this accordingly as do mills which buy both pulps. Mills which use their coarse stock on the board or wrapper machines or have a sale for coarse stock make usually a number two and three grade of fiber and refine only the tailings from the number three screens and the knotters. The system described above gives a closed system producing only number one stock.

Paperboard Problem

SPECIAL INQUIRY No. 31

"In making a light weight folding board from a furnish running about 50 per cent. sulphite and 50 per cent. soda pulp, difficulty is encountered on the cylinder machine in getting this stock to lay level and not run wild. It is desired to avoid slowing the machine down if possible, and it is also desirable to avoid severe treatment with the jordans as much as possible. Granting that the most logical cure would be longer beating, is there any little trick which could be applied to the machine to overcome the difficulty? Or, looking at it in another way, is there any practicable way of closing up stock of this nature when it has a tendency to run too free?"

A transcript, in blank, of all the replies received will be sent to those only who participate in the discussion. Send letters to W. G. MacNaughton, Secretary, TAPPI, 18 East 41st Street, New York, N. Y.

Textbook Distribution

According to the Joint Vocational Educational Committee, up to July 1 the sales of Manufacture of Pulp and Paper have amounted to 11,078 copies. These have been distributed as follows:

First	volume,	2,600 copies
Second	volume,	1,808 copies
Third	volume,	2,972 copies
Fourth	volume,	2,215 copies
Fifth	volume,	1,483 copies

The distribution for Canada is handled by J. N. Stephenson Pulp and Paper Magazine, Gardenvale, Que., while that for United States is by W. G. MacNaughton TAPPI, 18 East 41st Street, New York.

New Position for R. H. Harding

R. H. Harding, member TAPPI, formerly chemical engineer for the Rogers Fibre Company, Kennebunk, Me., has taken the position of research engineer for the Bauer Brothers Company of Springfield, Ohio. The Bauer Brothers Company is an old established manufacturer of machinery for the reduction and refining of dry and semi-dry materials. Its advent into the pulp and paper field is comparatively new and promises to be an interesting application of an old principle to a different grade of material.

Paper Testing*

By A. G. Rendall

Introduction

I think the majority of those who handle paper will appreciate that the time is now fully due when the paper-user shall have as intelligent a knowledge of the material he buys regarding its properties and possibilities, as the manufacturer who makes it. This address offers a plea for standardization of paper testing so that both maker and user shall know just what is aimed at and whether it is attained, in any make of paper; and that specifications may be established which will enable the user to buy his paper with at least as much certainty as say the motor engineer buys his metals.

I must approach the subject more from the standpoint of the user than the maker, and for this reason I am concerned more with the properties possessed by the paper, and to a less extent the manner in which they are obtained.

Specifications

The paper user should have a fairly exact knowledge of what he expects from his papers, and he should be able to express his requirements in a form that a maker can accurately appreciate. Such a case is the question of the writing or printing surface qualities of a paper: to tell the maker that you require a good litho offset printing surface does not express to him your wants so meaningly as if you define the factors that determine the correct surface.

The ideal paper specification would thus be composed of a set of factors with exact numerical limits which on the one hand would ensure that the paper, provided it conformed to these limits, would suit the requirements of the user, and on the other hand the factors and their measurement must be such as to be equally intelligible to both maker and user.

No terms should be included in the specification which are not capable of determination by the user, nor should they impose any manufacturing restrictions on the maker except in the broadest degree. Thus on both counts it would be futile for the user to attempt any definition of the method of beating to be adopted by the maker, or even to define the quality of the rag used in his rag paper. It must be sufficient for him to decide by direct measurement whether the finished product possesses the qualities he desires.

Having established a suitable specification for his papers, it is then necessary for the user to carry out a certain amount of routine testing to ensure that the paper always conforms to the standard.

Scheme of Analysis

I will now outline to you a scheme for the analysis of ordinary papers, i. e., excluding coated papers, parchments, etc.

First in the scheme comes the heading and identification of the paper. I mention this because it is closely linked up with the method of sampling.

Sampling

Here I would suggest that there is a great need for an accurate system of sampling, especially in carrying out routine tests to ensure maintenance of standard. In the case of a single sheet for testing, the question of sampling scarcely occurs. In the case of a single batch of paper, probably all made at the same time at the same mill, it is generally sufficient to take so many sheets at random, and, provided there is no great lack of uniformity, to take the average as a measure of the whole.

But to take a more difficult case. A printing firm buys the same paper continuously, placing its orders in say 10 ton lots. The paper is delivered as required in varying sized consignments. How should the sampling be carried out in such a case? Clearly it is useless testing sheets taken at random, as one consignment of paper may be made of various makings, the mill having probably made one order at more than one time, or conversely may have made several orders at one making. And with all due respect to the care taken by the mill to ensure uniformity of product, it is by no means safe to assume that separate makings of paper are identical.

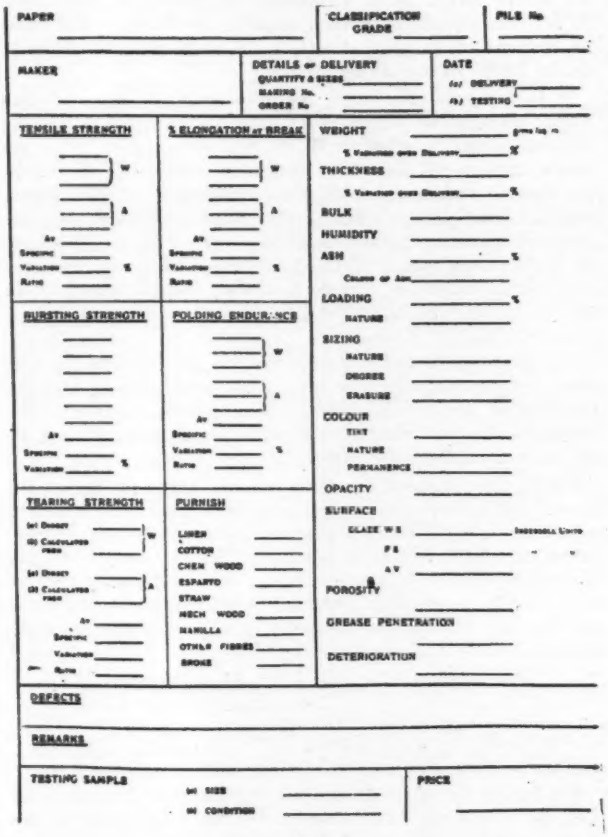

FIG. 1

I have attempted to overcome the difficulty by requesting the mill to mark clearly all its reams or bundles of paper with a number that shall designate the particular making number of the paper contained therein. It is then merely necessary to carry out tests on sample sheets taken at random from each making of paper, it being quite possible by this means to detect the different makings in any consignment. It is, of course, still necessary to assume that the paper is uniform throughout a making, though this assumption is less accurate than is perhaps desirable.

Regarding "outturn" sheets, these should not be sent for each order, but each "making," and if taken by the mill conscientiously at random throughout the making, should form the best samples for testing.

* Paper presented before British Technical Section, Sept., 1924. From Proceedings of British Technical Section, 1925.

TESTING

The tests applied may be grouped under the headings:—

a. Chemical tests.
b. Strength tests.
c. Other physical tests.

a. Chemical Tests.

These comprise the examination of the furnish of the paper, best effected by the usual method of pulping the samples, staining with Herzberg's stain and examination microscopically, obtaining a quantitative figure by count or judgment.

The nature of the sizing and also of the ash or loading material, and the dye or pigment used in colouring, resolve themselves into simple chemical tests.

b. Strength Tests.

These should invariably be carried out at a relative humidity of 65 per cent which is best obtained by leaving the cut samples for testing spread out in a desiccator containing an approximate 50 per cent solution of calcium chloride for 6 hours. The effect of temperature on physical tests is so small as to be neglected except under special circumstances.

It is fortunate that there are now standard paper strength testing machines of various types, that can be relied on to give accurate results, independent of the personal element. Thus for tensile strength and percentage elongation under strain the Schopper machine with power drive at the standard speed, is excellent. Similarly, the Mullen machine for bursting strength and the Schopper folding endurance machine, if power driven, give perfectly dependable results provided due care is taken over necessary adjustments and to see that the sample is properly attached. In all these cases, the average of 6 readings may be adopted as standard.

The Marx machine for tearing strength gives excellent results when satisfactorily adjusted, and, unlike other tearing strength machines, is almost entirely free from personal element. The averages calculated from the different strength measurements, do not fully characterise the paper.

Firstly, they should be made independent of the weight of the paper. 100 grams per square metre is a convenient standard weight for calculation. The observed averages may then be converted to specific figures by assuming that the tensile strength, bursting strength and tearing strength are approximately proportionate to the weight, the percentage elongation independent of it, and the folding endurance converted by a formula approximately expressed as:—

$$F = f\,\frac{T - 2.2}{t - 2.2}$$

T = tensile strength in lbs. of the conversion.
t = tensile strength in lbs. of sample tested.
2.2 refers to the tensile strength of 1 kg. under which the folding test is made and being a constant must be subtracted in order to gain proportion.

The uniformity of the sheet is of importance and can be indicated by noting the ratio of the strength of the paper in the machine and cross direction, and also of the total percentage variation of the readings from the average, calculated by adding together the differences of each reading from the average and dividing by the total of the six readings. Clearly the lower the percentage variation and the less ratio in the two directions, the better the paper for general purposes.

c. Other Physical Tests.

These include:—

1. *Weight,* as expressed in grams per sq. metre, *thickness,* and *bulk,* all of which are well-known measurements.

2. *Relative Humidity.* This is the factor which under certain conditions may be of relatively great importance to the user. It is quite distinct from "moisture content." though partly dependent on it.

TABLE I

Relative Humidity.	Moisture contained. Cotton.	Linen.	Chemical wood.	Mechanical wood.
%	%	%	%	%
40	4.9	5.3	5.8	8.0
50	5.4	6.0	6.6	8.8
60	5.7	6.3	7.4	9.4
70	6.1	6.8	8.4	10.0
80	6.8	7.7	9.6	10.6
90	8.0	9.5	11.3	12.0

The *relative humidity of a piece of paper* may be defined as the relative humidity of an atmosphere in which the paper will be at equilibrium for its moisture content, i.e, in which it will neither give up or take moisture from the air. The actual percentage of moisture in a sheet of paper at any given relative humidity will be dependent on the nature of its furnish mainly, and to a less extent on the degree of hydration of the fibres, the sizing, etc.

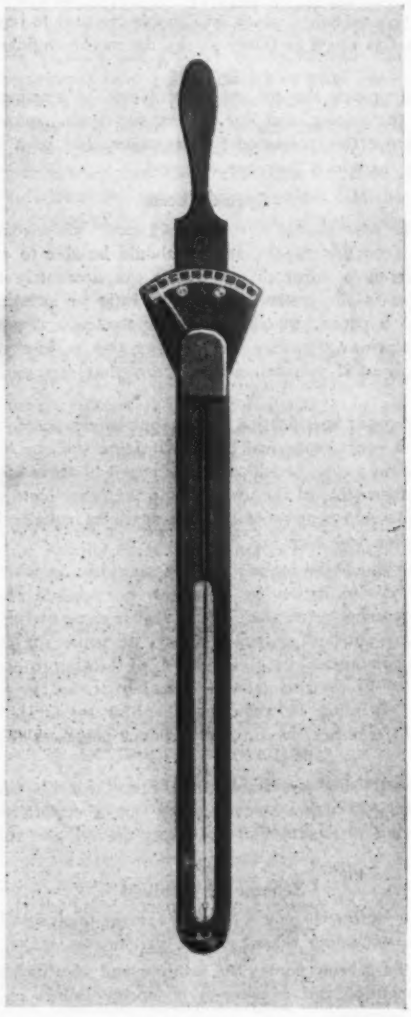

FIGURE 2

I would suggest two satisfactory methods of measuring the relative humidity of paper:—

a. The average humidity of a ream of paper may be measured by inserting a long form of hair hygrometer into the side of the ream. In this instrument the sensitive hair is in the blade and operates a horizontal needle in the haft. It takes about 10 minutes to settle down for a reading. (Fig.. 2.)
b. Another method which is applicable to small pieces of paper

and which can thus be used to measure the varying humidity across the width of a sheet, entails the use of a simple apparatus as shown. (Fig. 3.)

The sample of paper is placed in the horizontal tube and air drawn slowly through the whole. In the aspirator is a solution of sulphuric acid or calcium chloride of such strength that the air in the apparatus at equilibrium is at 65 per cent relative humidity as indicated by the hygrometer in the gas jar. The humidity of the piece of paper tested can then be computed from a measure of the ultimate percentage gain in

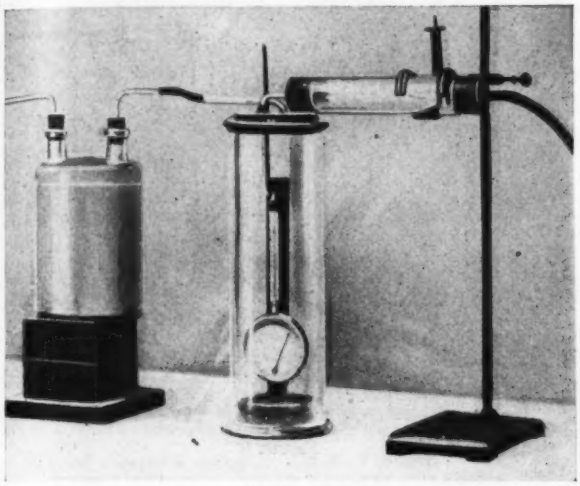

FIGURE 3

weight of the piece of paper which occurs after about 15 minutes. (Fig. 4.)

The curve (Fig. 4) shown here, which represents the approximate relation between relative humidity and percentage moisture content by weight, can be used in this calculation. Whether a ream of paper lies flat or whether it develops waved edges or a raised hump in the middle, is mainly a matter of relative humidity. If the paper is at a lower humidity than the average of the air in which it is kept, the edges will absorb moisture, stretch and become waved. This is the general case because paper is usually finished with a humidity below 60 per cent, often as low as 23 per cent, and is kept in air for which the average in this country is between 65 per cent and 70 per cent.

If the paper maker could arrange to send out all his paper at between 65 per cent and 70 per cent relative humidity, the bugbear of the cokled edges and bad lying paper would be largely eliminated.

Sizing

The ultimate quantitative measurement of degree of sizing still affords ground for research.

The figure obtained by noting the time necessary for dark spots to appear when a piece of paper is floated in say 10 per cent ammonium sulphocyanide solution, and spotted with a 5 per cent solution of ferric chloride, is only a measure of the total degree of sizing. Paper tested by this method may appear hard sized, and yet when written on will spread ink owing to the low surface sizing.

Moreover it is subject to several disturbing factors such as—

a. *Thickness of the sheet.* For practical purposes I have found as near approximation that the time taken for the spots to show varies as the cube of the thickness of the sheet, all things else being equal. If 0.005 inch is taken as the standard thickness, all results can be calculated to this thickness.

b. *Temperature* also greatly affects the readings, and it would appear that the usual relation between temperatures and rate of diffusion applies in this case.

c. Also the sheet should be at least 48 hours old before the final sizing test is made by this means, as it is quite common for tub-sized papers to give a very low reading and thus appear badly undersized when freshly made, but to be quite passable after 48 hours and conversely.

Lastly, this test in addition to failing to distinguish between surface and body sizing, gives no indication of erasive qualities of the sheet.

Opacity, Color Shade and Color Permanence

These are important factors but it cannot be said that the apparatus for their measurement is fully standardized.

Quite a good method of comparing, say azure shades, is to prepare a set of scales, each scale being a series of strips of the same tint but of increasng depth, and the tints of the scales differing in the proportion of red, yellow and black added to the neutral blue.

Permanence of shades cannot be satisfactorily measured with a mercury vapour lamp or other source of ultra violet light unless care is taken to exclude the action of ozone produced by the lamp on the paper. Even then prolonged action of relatively impure air is unmatched.

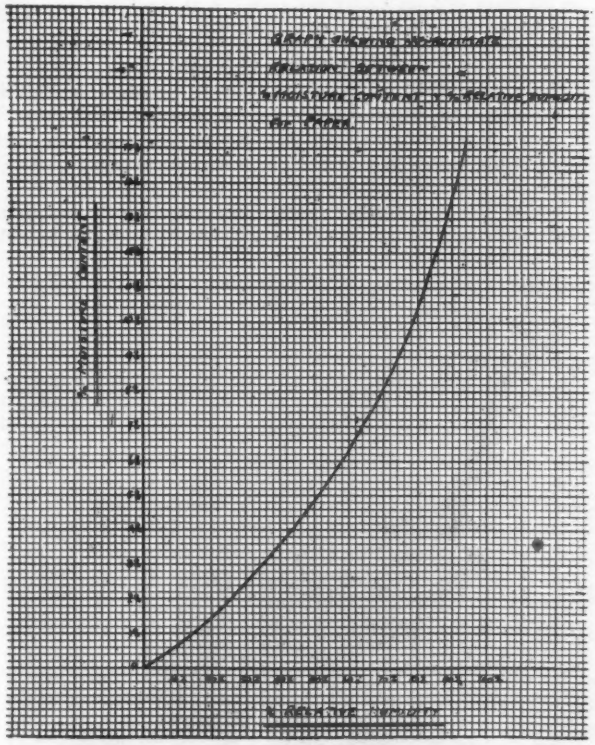

FIGURE 4

The nature of the surface of a sheet of paper can be more accurately measured. A distinction must be made between the *polish or glaze* of the surface and the *slip*. The polish or glaze can be measured quickly and accurately by the Ingersoll Glarimeter which is an instrument little known in this country. (Fig. 5.)

The *slip* of the paper is best measured by the sliding angle of the paper. This can be conveniently obtained by pinning a piece of the paper on to the face of a block of wood, and another piece on to the surface of an inclinable plane. Great care must be taken not to handle the surface of the paper. Almost phenomenal

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results may be obtained by touching the surface of a sheet of paper. For example, a piece of card had glaze of 36 Ingersoll units and a sliding angle of 28 inches. After merely drawing the hand once lightly over the surface of this card and glaze remained at 36 Ingersoll units but the sliding angle was reduced to 18 inches. Expressed in plainer terms this meant that whereas the untouched surface "seized" when moved over each other under light pressure, the same surface lubricated by the touch of the hand, slid as easily as a pair of playing cards. (Fig. 6).

Porosity

This is measured by the rate at which air can be pressed through the paper. By standardizing the area tested, and the pressure under which the air is forced through the sheet, this paper can be entirely standardized. Curiously, the readings obtained do not appear to be affected by the thickness of the sheet (within small limits), nor are they dependent on the total degree of sizing; but they seem to be mainly affected by the degree of hydration of the fiber.

A simple form of apparatus. (Fig. 7.)

Grease Penetration

This is of considerable importance under certain circumstances, notably in the case of printing papers. It is quite readily and reliably measured by noting the time for turpentine, when dropped on the sheet to form a uniform patch. With a tubsized paper the one side is generally more easily penetrated than the other.

Interpretation of Tests

Now, having briefly explained a scheme of analysis, it remains to show how the results obtained may be interpreted and used.

Firstly, it must be evident that the "quality" of a sheet of paper is not represented accurately by any one strength measurement.

In a very simple case, for example, an ordinary kraft wrapping paper, the quality may be taken as determined by the weight,

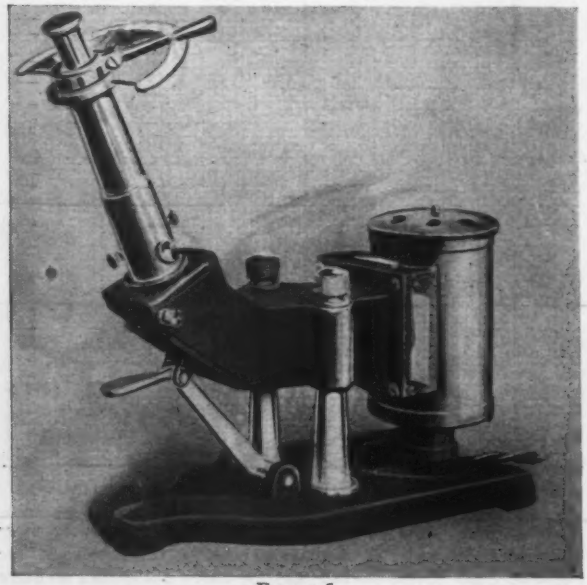

FIGURE 5

thickness, tearing and bursting strength, color and glaze. But for a more general case, take the large class of papers used for stationery definition. A scheme somewhat as follows, and which is partly based on the grading system similar to that used for German official stationery, is suggested.

Five *fiber classes* and seven *strength classes* are prepared.

The fiber classes are determined as follows:

(a) All rag fiber;
(b) Partly rag, partly chemical wood or esparto;
(c) Wholly chemical wood;
(d) Partly esparto, the rest chemical wood;
(e) All chemical wood with any other fiber.

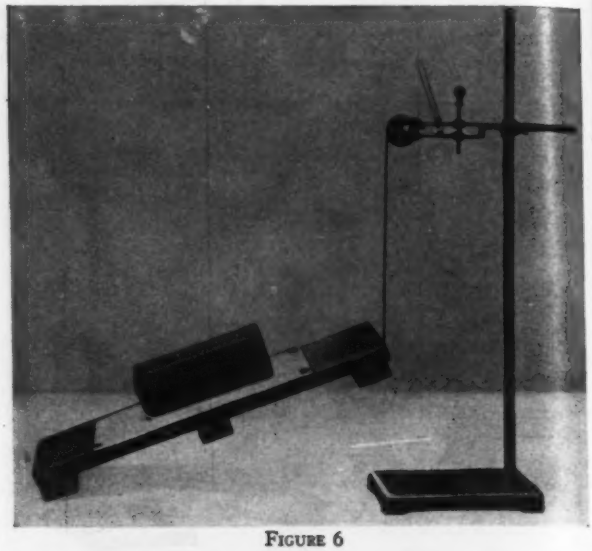

FIGURE 6

FIGURE 7

The numerical limits for the strength classes are based on a large number of tests taken in all qualities of paper and are shown in this table.

In this table it will be noted that the limits of folding endurance, unlike other strength tests, vary with both fiber and strength class (Table 2).

Classification Table

	Tensile Strength	Elongation %	Burst	Tearing strength	Fiber Class A Folding	B	C Endurance	D	E
0	21	5.2	64	250	4000				
1	18	4.6	54	206	1000	700			
2	15	4.0	43	160	450	225	100	80	
3	12	3.4	33	130	200	125	50	40	
4	9	2.7	22	90	75	50	30	25	10
5	6	1.9	12	40	25	20	13	10	5
6	3	1.0	2	10	10	7	6	4	2

A paper is taken as falling into that strength class in which it just covers all the limits. Thus a paper with a tensile strength of 19 pounds Schopper, and per cent elongation of 2.2 per cent at break, would fall into class 5, as it rightly should: because such a paper may be said to possess only false strength as revealed by the tensile strength figure.

Having now established a set of grades of paper, further greatly extended research will reveal the graded weight of paper exactly suited to the particular amount of wear and tear required of the paper.

Further, in his class of paper (for stationery and similar purpose) quality (including weight) is not the only requisite. If the paper is for ledger work or note paper, the writing surface is almost equally important as strength. What are the measureable factors that go to determine the writing surface? Research on this point has indicated that porosity, glaze, sizing and bulk all contribute.

The ideal writing surface was found to have the following limits:—

Porosity .....0.50— 80 units
Glaze ..... 24— 28 Ingersoll units
Total degree of sizing .....1.00—1.50 units
Bulk .....1.95—2.15

Subsequent tests have confirmed these figures in nearly every case, though there is the inevitable exception occasionally. Curiously, porosity has a very far reaching effect on writing surface. Thus a "greasy" writing surface always follows with a low degree of porosity rather than a high degree of sizing.

With printing papers, the great penetration factor is of importance. If it is too low, that is if the paper absorbs the greasy ink too readily, the printing matter will either strike through to the other side of the sheet, or the vehicle of the ink will penetrate the sheet leaving the pigment high and dry on the surface as an easily removable powder. Conversely, if it is too high, the ink will be slow drying and easily removed or will offset.

Time will not allow me to deal with the examination and standardization of other classes of paper such as coated papers, parchments, etc., but I shall be glad if I have indicated the need for some accurate system of paper standardization based on analytical and physical tests, and also to have mentioned some line along which such results may be obtained and used.

Discussion

L. G. COTTRALL: I would like to add a few points to the discussion on paper testing from the mill chemist's point of view. The mill chemist naturally has to include a good deal of paper testing within the scope of his work. He has the routine testing of the papers being turned out by his mill, and he also gets from time to time samples of other firms' and competitors' products from his sales department to test, in order to assist the latter department in ascertaining the cost of making paper like the sample submitted, and so to enable it to tender advantageously at competitive prices for suitable orders, and yet avoid booking orders which are certain to turn out monetary losses.

Time a Factor

Well, the first thing the chemist is up against is time, or, rather, lack of it. Both in routine testing and in dealing with sales department samples, and especially with the latter, time is a most important factor. Usually the chemist receives samples from sales about mid-day, and he is expected to report on them, say, by 5 o'clock. He may have four or five samples, and his tests must, to be of any use, include as a minimum, determinations of substance, loading, fiber, tensile and bursting strength, sizing, thickness, surface and finish.

The first thing that strikes one is what a long-winded affair paper testing is. To get the fiber constituents accurately, at least ten microscopic slides must be made up for each sample, so that if the chemist has two or three samples of paper to do, as he usually has, the preparation of the fiber for these slides and the making up of them knocks a decent lump out of the available time. As a matter of fact, if the fiber figure is extremely important, and it usually is, as the chemist never knows what use his report may be put to, and to whom it may be presented, it is safer to take 20 or 30 slides of each sample.

Again, the clumsy sizing tests are big time consumers. Tensile tests also take a time. In this latter connection what is the minimum number of strips we may safely take to arrive at a correct average tensile strength?

Limits of Accuracy

The next thing the mill chemist is up against after his fight with time is what are the "limits of accuracy" of the various tests. Take the case of mechanical, sulphite, mixtures, *i.e.*, news print furnishes. According to Professor Dahlen, of the Charlottenberg Material-prufung Laboratory, he considers estimations of news print combinations of ground wood and sulphite to within 10 per cent. on the average to be very good. This seems to be endorsed by M. F. Merritt, who reports this observation of Prof. Dahlen (*Pulp and Paper Magazine*, of Canada, September 25, 1924). These two investigators have made a very close study of fiber estimations, and may be considered experts in their line. In passing it is also interesting to note that the Charlottenberg Laboratory has no method of distinguishing between soda and sulphite pulps. How then can a rushed mill chemist in a works laboratory with limited time at his disposal be expected to get very accurate figures in this connection? Yet the accurate sulphite-mechanical ratio is a most important figure, for the substitution of 3 per cent of sulphite by 3 per cent of mechanical means a saving of 1s. 6d. per ton in fiber costs—say £40 a week in a large news print mill.

A rapid method of accurately estimating the percentage of sulphite and mechanical in "news" is sorely needed. What is the accuracy or rather the sensitiveness of the other tests? Thanks to the work of Sindall in this country, Carson in America and Herzberg in Germany, and a number of other investigators, we *do* know something about the consistency and sensitiveness of paper strength tests, and the various factors influencing the same. But what about the sensitiveness and the consistency of the glarimeter for testing surface? For instance, can the latter detect the difference in the same make of paper when one nip of the calenders has been omitted? Sindall in his book on Paper Testing, p. 148, gives a table quoted from the Forest Products Laboratory on this very point, but the data is very meagre and inconclusive. Does it give comparative readings with papers of different furnishes? Are several readings on the same paper consistent, or do they vary greatly amongst themselves?

How accurate and consistent is the Schopper folding tester? I am told it gives very often erratic results; the same is sometimes the case with the tearing tester.

Significance of the Tests

The third thing the mill chemist is up against is the actual significance of the various tests in relation to the practical uses of the paper. Except in the case of strength and tearing tests, paper

tests are mostly indirect means of testing the suitability of the paper for the uses to which it is to be put. For instance, the glarimeter directly measures the manner in which light is reflected from the paper surface. This indirectly gives an idea of the flatness and regularity of the surface, which in its turn gives an idea of the manner in which it is suitable for printed illustrations, etc. As Mr. Rendall hinted in his paper, this indirect method is not necessarily suitable in itself, and may need supplementing by a friction test (slip test). Again Mr. Rendall in his paper pointed out that porosity to air and grease was an indirect test of the writing properties of a paper, and similarly we have other indirect tests for printing and writing qualities of paper, which a perusal of Mr. Rendall's paper will reveal.

Now, when a mill chemist receives samples of paper from the sales department, he is not told to carry out such and such tests on them, but is given the vague instructions, "test or compare them with another—generally his own mill's—make." He has got, therefore, to know what the papers are wanted for and test and compare them in the light of this knowledge, and in addition analyze their composition—furnish and loading—to arrive at the probable cost of manufacture of each one. The chemist has, therefore, to select the tests most suited to give him the information with a minimum expenditure of time. This brings him up against the general vagueness of paper testing. What are the indirect tests which will give him his information. Are there enough to give him what he wants? Is there a test for look through, crispness and rattle?

He soon begins to find that many of the qualities which he wants to quantitatively ascertain cannot be tested for at all, only judged qualitatively by experience, and the practical paper maker in these cases is much better at the job than the mill chemist. In the case of those properties that can be tested for, are the tests sensitive enough, and consistent enough to give reliable comparative results, for it must be remembered that in a large number of cases the samples submitted to him are samples obtained in a highly competitive market, and the differences in quality between them all are slight, and very slight differences determine the way in which a sale goes or an order is booked. Alas! in a large number of cases we must admit tests are not reliable and sensitive enough, at any rate tests which can be completed in a reasonable time.

Points Emphasized

At the risk of being tedious in my remarks, I do seriously want to emphasize the present vague, clumsy, time-consuming and unreliable state of paper-testing. To sum up, we are faced with the following problems in paper testing, which must be solved before the latter can be utilized fully and the extent to which it should:

1. Reduce the time factor in various methods of paper testing.
2. Establish fully the significance of the different tests in relation to the properties of the paper as regards printing, writing, and other qualities.
3. Establish the limits of sensitiveness, consistency and accuracy of the different paper tests, and determine the external factors liable to influence the results of these tests, and the personal equation inherent in these tests.
4. Devise quantitative tests for certain properties of paper *e.g.*, dustiness, look through, rattle and character—for which at present we have no tests.

The right body to tackle these problems—which are purely scientific investigation problems—is, of course, the body I am now addressing, the Technical Section of the Papermakers Association, although doubtless it would be a great advantage to work in conjunction with educational institutions which possess papermaking departments.

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The subject is so large, and there is such an enormous amount of work to be carried out before we can solve even only the most pressing problems I have indicated, that mill chemists and paper technologists generally can only advance a little way, and very slowly, working individually.

Could not a committee of this Technical Section be got together to formulate an investigation scheme? This scheme should not try to embrace the whole subject at once, but attack it portion by portion. We might first concentrate on size tests, or surface tests, or fiber estimations. All the methods would be examined thoroughly by test samples sent to various works. The results would be discussed by the committee, further tests made and so on, and then a report and recommendations by the committee, which would include such things as limits of accuracy, sensitiveness and so on. Then another set of methods for testing another property of paper could be gone into, and so on. By this means, little by little, the whole ground of paper testing would be slowly, but surely covered, and paper testing standardized. I am sure the majority of mill chemists and other paper technologists in the country would volunteer to give practical help in carrying out test investigations as far as it would be in their power, and I don't think the employers, at any rate the majority of them, would object to their chemists helping in this work, from which such valuable results for paper manufacturers as a whole would accrue.

The standardization of paper testing is most urgent, perhaps the most urgent problem in the industry, with competition as it is today, and I am afraid that if this matter is not soon taken up officially, mill chemists will be obliged, as far as they are able, to devise and standardize their own methods of testing, and in a few years we may be faced with the problem of reconciling all sorts of methods and standards of paper testing, good, bad, and indifferent, methods which each mill has established for itself and will be very reluctant to abandon. It is to avoid this that I urge the pressing need at present to establish some sort of recognized authority to direct investigations in and standardize paper testing.

Standardization Needed

R. W. SINDALL said that the necessity for standardizing had long been recognized among all scientists in relation to the chemical and physical testing of commercial products.

Standardization requires an expression of the characteristics of paper and its varied properties in terms that are easily understood and visualized. Many such properties are already expressed in familiar terms, amongst which might be mentioned the tensile strength, bursting strain, breaking length, and other physical properties. Naturally, it took time to become quite accustomed to the terms of record. Thus a papermaker, by reason of habit, could readily grasp the meaning of the term 27 lbs. demy, but this same figure expressed in its metrical equivalent, viz., 100 grammes per square metre, conveyed little information. Another expression of a different character, quoted for the sake of illustration, was the phrase 10 grams per litre. The chemist in the laboratory understanding this term must convert it into an expression which the papermaker could more easily comprehend, and he might therefore denote the same relation by the term 10 pounds per 100 gallons.

In the same way he imagined himself handling a sheet of 27 pounds demy. This only proved that knowledge, practice and habit soon accustomed an observer to appreciate any unit of value.

Many properties of a paper were already determined by standard methods. Loading, rosin content, gelatine and other chemical constituents were given as percentages by weight. The simpler and commoner physical properties were also recorded in standard terms derived from the use of generally accepted standard instruments. But there were many characteristics of paper not

yet expressed in definite terms universally acknowledged or understood, such as, for example, opacity, bulk, color, transparency, porosity, surface, sizing quality, feel, glaze all of which factors are of great importance and any attempt to find definite terms of expression was to be commended. This did not mean finding new methods and definitions, but possibly standardizing methods already in general use, but so far not officially recognized.

Mr. Rendall had illustrated these points fully by dealing with some of these properties. If the term *porosity*, for example, was taken to mean the number of minutes occupied by the flow of a known volume of air, say, 100 cubic inches, through an area of 10 square inches of paper, then it was clear that the method of measuring such a flow must be defined in order that the results obtained by one observer might accurately compare with the figures obtained by another.

We thus arrived at the conclusion that the expression of a particular characteristic of paper in defined and precise terms practically resolved itself into finding a numerical term in which to denote the particular characteristic under consideration. This again led to the obvious and logical conclusion that standard methods with the use of standard apparatus must be devised. As Mr. Rendall rightly pointed out, such procedure would involve a considerable amount of research before satisfactory and simple methods would be generally accepted. This was the line of action that had been taken up in America by the Bureau of Standards, a Government institution under which extended research was readily possible.

Sizing Quality and Thickness

In this connection one might discuss the question of sizing quality as an example: The test made by floating a sheet of paper on to the surface of a 10 per cent solution of ammonium of sulphocyanide, spotted with small quantities of ferric chloride was only a rough comparative test, the exact meaning of which had yet to be found. What relation did the test bear to the actual percentages of sizing ingredient present? Further, it was only a penetration test, and might not afford any real indication of resistance to erasure. The author of the paper suggested a formula based on his experimental observations that the time of penetration varied as the cube of the thickness of the sheet or $T=at^3$, where T is the time noted, t=sheet thickness, and a is a constant. If it could be shown that T really corresponds in its varying values to a practical and fairly noticeable difference in behaviour, it became a valuable numerical expression.

This reasoning might be applied to all such difficult expressions of quality such as colour, opacity, surface and the like. To replace such descriptions as "good, moderate, reasonable, doubtful, inferior, poor, bad," by a scale of figures or numerical expressions was a step in the right direction.

Recording the Results

A simple illustration of the importance of standardizing not only the method of testing, but the system of recording the results was afforded by an example from one of our own numerous cases. It was customary to express the fiber furnish of a paper in the form of a percentage composition of the fiber furnish, as for instance:

Mechanical pulp	70
Sulphite pulp	30
	100

These figures were based upon a large number of microscopical observations and final mean results. Now these figures represented the proportions in which the two fibrous ingredients exist in the total fiber reckoned as 100, and did not represent the true proportion by weight present in the paper. If, on the other hand, allowance was made for mineral matter and the fibers recorded in terms of actual percentage by weight, a difference was produced. The ash in this case was 12 per cent (china clay) and the analysis by weight read:

China clay	12.0
Fiber mechanical pulp	61.6
Chemical pulp	26.4
	100.0

The necessity for expressing the result in this form, in order that no misunderstanding should arise as to the actual percentage of chemical wood present was due to the existence of a tariff schedule limiting the amount.

The use of a test record card, or printed form, for recording the results was confronted with some difficulties. The idea must be put into practice, or accepted with commonsense restrictions. Where a continual series of observations were made as a matter of routine control a printed form was desirable from every point of view—neatness, saving of time, quick grasp of detail, and convenience. Such a form would only show the essential points and no more.

The use of a printed schedule giving every possible characteristic filled in could not be recommended. Half the items might not be applicable. The somewhat elaborate example given in the American Technical Association* report on "Paper Testing Methods" was a case in point. It could not cover the special tests which were necessary for papers having special uses and functions.

At present the case called for an exhaustive inquiry into methods of testing as a preliminary to the establishment of numerical expressions by means of which to record the tested properties or characteristics of the paper. In trying to find such numerical values, one must not forget to formulate them in such a manner that they were easily understood or visualized by the papermaker and buyer.

With such an interesting and suggestive paper, one was sorely tempted to select for consideration some individual distinctive point such as, for instance, that involved in the "Ideal writing paper."

Mr. Rendall could enlarge on this subject with profit to his readers, by explaining how the units of porosity, glaze, sizing, quality and bulk, set out at the end of his admirable essay helped him to decide that a given sample of paper has the ideal writing surface and, what was more important, how far must deviations go from the figures quoted to give a paper just perceptibly inferior.

The User of Paper

D. R. DAVEY said: One has read with a good deal of interest the paper by Mr. Rendall. It is good to note his belief that the majority appreciate that the time has come when the user shall have as full a knowledge of the properties of paper as the manufacturer himself. It may be that we have not yet quite reached that stage, desirable as it undoubtedly is. Only a short time ago, a well-known man, on hearing that certain lectures had been arranged, said to the lecturer, rather pathetically, "Don't tell them too much." Of course, the man's attitude was wrong. If user and manufacturer work sympathetically together, the user cannot know too much about paper, and it is probably equally true that the manufacturer cannot know too much about the particular uses to which his product shall be put and what therefore is to be reasonably required of him.

One would be reluctant to in any way offer criticism of the paper before us either as to suggested methods of examination or as to the conclusions drawn. One would much prefer to, and in

* Technical Association of the Pulp and Paper Industry.—Ed. note.

fact does, offer congratulations on so useful a piece of work as is represented by the paper.

Probably the real difficulty that has to be faced in making any attempt to standardize or classify paper, is that recommendations have of necessity to be of so general a character. Otherwise every type of paper would have to be considered from the point of view of every conceivable use, and that is, practically speaking, impossible. Classifications therefore have to be so broad as to lose in many cases, specific value. My point is, that inside any general classification, as for instance inside each group on the German classification, there may be such variations that satisfaction may be given to one user and cause for complaint to another. This in spite of the fact that the papers would rightly come into the same class on a general system of standardization.

Specification Difficulties

Naturally, specification in a given case can be very close and rigid. One can specify nature of fiber, furnish, proportion of mineral matter if any, nature and extent of sizing, and the physical qualities such as strength, opacity, etc. These microscopical, chemical and physical tests are useful and in many cases invaluable, and certain broad classifications along these lines may be very desirable.

There will, however, always remain the special cases that cannot be met by any such system. For example, a short time ago a specimen of paper was submitted for investigation. It was a very excellent type of super-calendered litho, quite satisfactory on all ordinary tests, but when used on a rotary-photogravure printing machine, the copper cylinders were attacked and considerable trouble caused. Paper testing to meet that case had to go far beyond what could be comprehended by any general classification.

Another experience concerned the use of a really good quality all-rag tissue paper. Any general classification would have marked that paper as first-class as to fiber furnish, nature and extent of sizing, freedom from mineral matter, strength, opacity, etc. It was used to wrap silver goods for transit, and the goods arrived at their destination hopelessly tarnished. Again paper testing of a special order had to be devised to solve the problem.

One more example. A short time ago a run of greaseproof paper was rejected. It was apparently of standard quality. It would have taken a satisfactory place in any general scheme of classification as to furnish and other constituents. It was also good as regards strength and greaseproof properties, but when used for wrapping a certain commodity it turned very yellow.

One could go on citing instances that have come before one personally, but sufficient has been said. These points have not been mentioned by way of criticism of Mr. Rendall's excellent paper, but only in order to point out that the particular uses to which even one class of paper may be put are so varied, and in some cases so special, that all our troubles cannot be removed even if we standardize and classify. We shall go a good way towards solving many problems when user and manufacturer talk more freely of their requirements and their difficulties, and resolve to work together to mutual advantage.

MR. LOCK quoted figures regarding variations in folding tests, and asked Mr. Rendall if he could tell him if he found any great variations in the Schopper folding endurance machine. He had received some reports of tests which were carried out in the laboratory where the differences shown were very great indeed. They as consumers of paper often found great variations in some makes, and wondered if they were carrying out their tests in the proper manner. If these figures were accurately expressed they, as users of paper, felt very frightened at the great differences obtained.

MR. PARKER SMITH observed that he had to go to a good deal of trouble in finding out what the customer actually wanted, and if he had any standard for his paper. As a rule, they decided the nature of their supplies from the standards the customer already had, and they also used a certain amount of discretion in approximating what he wanted. He asked Mr. Rendall to say if with any of his test investigations he had ever come in contact with papermakers who were not willing to accommodate him in meeting his wishes. He thought if the customer was not willing to adhere to the tests he should give the papermaker warning. As regards tests, he considered it was important that the customer should know exactly what he wanted. He went on to say that the three-shift system in this country was a great cause of the increase of irregularity of standards. He believed, however, that certain mills had adopted a system whereby each shift was enabled to repeat its work. With regard to this matter, he thought it was so important that more should be heard of it. In concluding, he believed it essential to know exactly the standards required by the customer, and then it was up to the papermaker to see that every possible means were taken to attain them.

MR. SHELDON LEICESTER expressed the opinion that users of paper should state more clearly what they wanted. Frequently papermakers gave all their attention to supplying paper with strength when it was surface that was required. The papermaker was always anxious to help the user, and he would like to emphasize the necessity of printers and users stipulating clearly for what the paper was to be used and in which direction the special strength was required.

MR. A. G. RENDALL thought there seemed to be a note of fear sounded by many papermakers as to the possibilities of the results of paper testing. There was nothing to fear. They were handling a material that was complex and heterogeneous, and which comprised many physical phenomena, and the more knowledge brought to bear on the subject the more simple would the working conditions become.

MR. COTTRALL had said that there were so many things that would have to be standardized, but he did not think that the complete standardization of a paper would necessitate the measurement of every factor. For example, if sizing, bulk, finish and possibly one or two other similar factors were measured, it would be necessary to measure "rattle" etc., as the latter are only secondary features governed by the former or primary features. Mr. Lock need not be alarmed about the differences obtained in his folding tests. It was quite a usual thing to get large differences in individual readings.

R. W. SINDALL drew the inference from Rendall's paper that a prospective user of paper might be entitled to say what materials the paper manufacturer should employ to produce the paper to suit his requirements. That, however, was hardly possible. If the user specified his requirements as to quality, he must leave the papermaker to utilize such material and make the paper in such a way as would give him the particular quality and characteristic asked for.

F. HECKFORD maintained that the buyer was really the arbitrator and he fixed the quality of the paper and the price, with one or two exceptions. As a technical man he quite agreed with the setting of high standards. That was why the Technical Section existed. Its position, however, was like that occupied by the League of Nations, which had no control beyond its moral suasion.

Confer Regarding Paper Mill for Salem

[FROM OUR REGULAR CORRESPONDENT]

SALEM, Ore., August 6, 1925.—A. D. Alpine of Seattle, and E. J. Mosley of Los Angeles, who are interested in the establishment of a $200,000 paper mill in Salem, arrived recently to confer with associates regarding the project.

It was said that persons interested in the mill had other sites under consideration but preferred to build in Salem because of its central location, and abundance of water and pulp wood.

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Conducted by THOS. J. BURKE, C.A., Sec-Treas

The Six Ways To Eliminate Waste*

What They Are, How They Are Used, and What They Accomplish

By Ray M. Hudson, Chief, Div. of Simplified Practice, U. S. Dept. of Commerce

WASTE should be continually studied from the angles of eliminating the avoidable portion, and of reducing the unavoidable portion to the minimum. The method to be applied depends on the nature of the waste under consideration. In some cases one method will suffice; in others, another. In still other cases, a judicious combination of methods may be needed to yield the most satisfactory solution.

The methods commonly used in waste elimination are broadly classified as follows:—

1—Direct reduction of wastes
2—Better utilization of by-products
3—Greater use of existing facilities
4—Revision of existing facilities
5—Simplification and standardization
6—Better control of production resources

Discussion of each of these methods and examples of their respective application follow.

Direct Reduction

The term "direct reduction" is applied to all efforts which have for their objective the curtailment of present losses or wastes without involving any additional expenditure of money.

The issue of more material than is required for a specific use or purpose is a form of waste which can usually be corrected by closer supervision. Similarly "soldiering," and other forms of labor waste, may be corrected with consequent saving. Shutting down machines, or turning off lights, when not in use, saves power, fuel, etc. These are homely examples, but by and large, they express the usual conception of waste. The elimination of such wastes calls for corrective measures which may range from common-sense frugality or thrift to absolute parsimony.

In factory work, one of the greatest sources of waste is spoiled work. It has long been recognized that one of the quickest ways to increase production is to cut down the spoilage. Usually a high percentage of spoiled work, or scrap, is cause for "jacking up" the foreman. While this form of corrective action may be applied in a way which defeats the end sought, more intensive supervision usually results in some appreciable reduction in the amount of work lost. Here the question arises as to whether or not the consequent retardation of production resulting from the worker's effort to be more careful increases the labor cost per piece out of proportion to the direct saving in material thus achieved. There are conditions under which a certain allowable spoilage may prove an economy. In such cases, such spoilage may be considered unavoidable wastes. Spoilage beyond the allowable maximum is obviously avoidable, and should be eliminated.

There are many ways of eliminating wastes by the direct reduction process. The best way in each case must be based on a study of the wastes, their nature, volume, and cause. Then with the facts in hand, the particular corrective measure can be determined on the basis of the cost of its application measured against the probable return from that application.

Better Utilization of By-products

More and more industries are studying their waste heaps and seeking ways and means of utilizing materials formerly regarded as lost. Their efforts toward the better utilization of all these materials, these by-products, may be classified under three principal headings: (a) Salvaging; (b) reclamation; (c) by-products manufacturing. Each subdivision covers a specific line of endeavor, and is distinguishable from the other two by the differences in the methods followed in securing greater returns from waste materials.

Salvaging means picking up miscellaneous waste materials, sorting and classifying them prior to disposing of them to best advantage.

Reclamation is the process which follows salvaging, for, in determining disposal, it may be found worth while to recover, restore, or repair the salvaged article and thus render it fit to use again for the purpose for which it was originally intended.

As an example of salvaging, the present disposition of waste paper is typical. In many places it was formerly used for fuel, but as the methods of using waste paper in making new paper became better known, and the price of new paper rose, this waste material took on new value. Now it is carefully collected, baled and sold at a profitable price. One large metal-working plant ships nearly 500 tons of waste paper to the mills annually.

In reclamation work, the process is more complex. In some organizations, special departments or shops are organized to do nothing but reclamation work. These shops are equipped with a variety of machines suitable for the economical handling of a wide variety of miscellaneous jobs, and the workers engaged are usually all-around men of wide experience and high mechanical ability. As an example, the plant previously mentioned repairs

Cost Section

* From Management and Administration.

and makes new boxes of second-hand materials to the number of 60,000 per year and to the value of more than $30,000.

BY-PRODUCT MANUFACTURING is the third phase. There are many examples of obtaining wealth from waste, particularly in the chemical processes of industry. The by-products of coke ovens are regarded as more valuable than the coke itself. In the steel industry, blast furnace gases are used for power generation, and one large plant is now contemplating the manufacture of automobile cylinder castings from the "dust" reclaimed from the furnaces.

The second stage in the waste elimination effort is the better utilization of by-products. It is chiefly distinguished from the primary stage—direct reduction—by the fact that better utilization invariably requires the spending of more money than direct reduction in order to recover the money already buried in the waste heap. Even in the elementary example of collecting and selling scrap metal, there are not only the expenses of those operations, but also the costs of handling, storing and transporting. These costs as of any particular date in relation to the market price then prevailing for the scrap materials determine the profitable disposition of the materials. Many transactions now occur in which costs are not fully considered, and so long as they are not constantly checked, the maximum return from the waste pile cannot be obtained.

Greater Use of Existing Facilities

In this third stage, we may include the usual examples of idle equipment which represent a heavy overhead charge. Idle cars, idle trucks, idle machines, idle men, idle materials or stocks, all represent unusual capacity for production, the costs of which must be absorbed from the revenues derived from their active periods. All these facilities for doing productive work offer possibilities for profit or for loss in proportion to the extent of their use.

The greater interest evident these days in the industrial field in securing the maximum use of existing facilities is partly due to the influence of the war. During that period, many plants were greatly expanded to handle the huge war orders, but with the cessation of hostilities there arose the problem of what to do with the extra buildings and equipment. With the depression out of the way, and world conditions becoming more stable, this difficulty is vanishing, and though at present the potential plant capacity of our country is greater than the current consumption of our products, the facts show that the ratio of actual utilization to plant capacity is steadily increasing.

There is, in many fields, need for a constant survey showing the degree of use of all facilities capable of producing revenue or income, not only for the sake of determining the relative efficiency of operation, but also as an insurance against being caught unprepared to handle an increasing volume of business. Even with such information at hand, there is still to be considered the question whether or not it is advisable to expand present facilities, or employ a further method of waste elimination.

Revision of Existing Facilities

Perhaps there is no more striking example of waste elimination by revision of facilities than the application of conveyors in moving materials. Take the example of a factory where materials were trucked by hand from one machine to the next. The idea of the moving belt or platform arose out of the frequency of trips between machines, and the human labor required to maintain the volume of one-way traffic necessary to continuous production. What followed? Almost immediately the machines which were formerly departmentalized by class or kind were rearranged according to the proper sequence of operations required of them, conveyors were installed, and now the continuous movement of material by conveyors from receiving dock, through the shops, the assembly rooms, and onto the shipping platform and in some instances, even into the waiting cars, is common practice in every large-scale industry.

Throughout the entire range of revisions the problem of relative cost must be seriously studied and heeded. Admittedly, the calculation of such costs is more intricate than the calculation of the direct costs of current production; but that is no reason for passing them over lightly. The writer believes that the expense of determining the true costs of all revisions before they are made is a most reasonable premium on vital insurance against loss.

In such calculations, all the losses of scrapping the old design, material on hand, equipment or method, and the costs of new patterns, tools etc., should be checked against the probable savings expected from the change, and only when the change is fully warranted by all the facts, should it be authorized. There is too much haphazard revision, and not enough precalculation of the cost, and as a consequence, the nation's scrap pile is many millions larger than it ought to be.

Simplification and Standardization

The object of production and distribution is to satisfy human wants. Goods are manufactured, transported and distributed because human beings have wants they seek to satisfy. The more people there are, the greater their wants, both in quantity and in variety. A greater number of different kinds of things must be produced to meet the growing demand. There are two methods of minimizing the waste caused by excessive variety: One is simplification; the other is, standardization.

SIMPLICATION is that policy of business management which seeks to conduct all activities and to perform all functions of an enterprise, in the least elaborate manner consistent with any given purpose. It is the antithesis of variety and complexity; it means the elimination of the superfluous and the unnecessary.

Simplification may be applied to products, parts, and processes. It may be applied by the manufacturer, the merchant, or the consumer in the conduct of their individual businesses, but the best and the most far-reaching results are attained through the intelligent co-operation of all interests. The more important of those results are decreased inventories, smaller idle investments, lower selling expenses, fewer misunderstandings and lower production costs; also quicker turnover, volume business, improved quality of product, more profit and better value per dollar spent.

Results of Simplification

As an example of how the elimination of excessive variety may be applied by the producer, a certain manufacturer of shoes formerly made three grades of 2500 styles each but found the burden of this variety too heavy. Analysis of his sales showed that the bulk of his business warranted reducing his line to one grade of 100 styles. He eliminated 98 7/10 per cent of his former varieties with these results; inventories decreased 26 per cent, direct overhead 28 per cent, and production costs 31 per cent; turnover increased 50 per cent, sales of women's shoes 22 per cent and of men's shoes 80 per cent. The cost to the consumer was reduced 31 per cent.

Simplification may be effectively applied in an individual plant or enterprise, but to obtain the greatest savings, it must be carried beyond the individual plant until, by co-operative effort, a national simplification is accomplished which will bring advantages and benefits to all concerned.

Simplification is probably one of the most important means of cutting production and distribution costs, but it cannot be successfully brought about even in a single plant or business without the whole-hearted co-operation of the production, the sales and the financial executives. Similarly, national simplifications are most successful when all interests co-operate. This means not only the trade associations interested in the particular commodity under consideration, but also the non-members, as well as the allied or related

groups, in any way likely to be affected by the recommendations adopted. The tremendous wastes now incident to excessive variety in shape, size, quality, composition, and other characteristics of product constitute a large part of the huge deduction from the goods and services we might all enjoy if simplification were more generally applied.

STANDARDIZATION is the continuous process of crystallizing the best thought and practice of the industry or the art, and coincidently eliminating that of proved lesser quality, utility, or value, as uneconomic, wasteful and destructive. It is the logical outgrowth of constructive effort; it is the measure of progress, and the incentive for further advance. For no sooner has any one thing reached a certain degree of attainment or perfection than effort is concentrated on refining, improving and developing that thing to higher limits of performance, utility and satisfaction, i. e., a new "standard" is sought!

Standards may be divided into four major classes; Standards of measurement; of quality; of performance; of practice. Each of these classes will be described briefly with respect to its application and usage.

STANDARDS OF MEASUREMENTS are those used for expressing the quantitative aspects of space, time, matter, energy and motion, and their interrelations. Their purposes are (1) to aid accuracy in industry through uniform and correct measures; (2) to promote justice in daily trade through systematic inspection and regulation; and (3) to facilitate precision in science and technologic research through calibration of units, measures and instruments involved. Such standards are obviously necessary in establishing sizes and dimensions of parts, or units of machines or structures in which interchangeability of those components is essential to ease of assembling, erection and maintenance.

STANDARDS OF QUALITY are primarily useful as a basis for fair dealing, and as a means of avoiding disputes or settling differences. Their use promotes precision, and reduces waste in manufacturing, selling and consumption. For example, a manufacturer who guarantees his products to his customers protects himself by securing raw materials of uniform grade and character, for he knows he cannot build certainty of performance, etc., on the uncertainties of unstandardized materials. The lack of quality standards is another great source of waste. Consumers in general today are more insistent than ever before that standards of quality be established for all kinds of goods.

STANDARDS OF PERFORMANCE reflect the relative efficiency of machines or men, or both. Definite ratios of output to input are necessary in determining whether of not performance is economical, efficient, and profitable. Such bases of measurement or comparison are very useful to both buyers and sellers in estimating probable results.

STANDARDS OF PRACTICE are useful in the technical regulation of construction, installation and operation. They involve the factors defining quality, safety, vehemence, economy, efficiency and uniformity, and thus provide a basis for agreement of all interests in those matters which have to do chiefly with the protection of physical property and human life. Such standards assist more in the prevention of waste than in its elimination, though it may be argued that conformance with well-established standards of practice eliminates the wastes incident on departure from those standards. In either event, the great advantage in adhering to standards of practice is in the economy, efficiency and safety which result.

Benefits From Standardization

Standardization, consciously applied, means more economical manufacturing. If a manufacturer simplifies his line to those of his products which are in greatest demand, and then proceeds to develop them as his standards, he can, because of the reduced number of manufacturing units, establish larger units of production, which means longer runs and less frequent changes or set-ups. Higher rates of individual production and less idle equipment result from the steady flow of work across his machines. This larger and more uniform machine burden means more effective stock control, which requires more accurate planning and estimating of production requirements, and thus leads into better control of purchasing, with greater ease in securing raw materials. Better and more simplified inspection becomes possible as does improved material handling. Clerical overhead is reduced, and supervision is more intense or concentrated. In brief, all the advantages of mass production methods become increasingly possible with the further application of standardization. There is, for a given volume of output a reduction in capital usually tied up in raw materials, semi-finished work, and finished products, as well as in the jigs, dies, templates and special machinery required for variety production. The stock of repair parts for equipment is decreased, and storage space for stocks of all kinds is proportionately lessened. Consequently it is possible for the manufacturer to turn around on a smaller working capital.

Labor becomes more efficient. Training of new employees is simplified, and in these days of labor scarcity, and the necessity of making skilled mechanics out of relatively inexperienced men, this is an important advantage. The longer runs and the higher individual production means better earnings, steadier work, also happier and more contented workmen. Seasonal employment is reduced, and fewer factory shut-downs occur.

Standardization will come to have a greater national significance in the next few years than it has ever had before, because the economic trend tends to the elimination of wastes of every kind, and degrees.

Better Control of Production Resources

Waste is a measure of managerial ability. The best organized, best managed industries have the least waste, considering waste as expenditure for which there is no tangible return. Conversely, an excessive degree of waste indicates faulty management.

Management, to achieve maximum results, must develop maximum possible control of all factors involved in the effort for which it is responsible in order that it may thus insure the attainment of those results. So long as there is lack of such control, there is waste, in direct proportion to that lack.

The great factors in modern business are: men, materials, machinery, methods, money, and markets. The late Charles P. Steinmetz once said:

"Each of these factors has its waste heap which the manager, who wishes to meet competition most advantageously, will inventory minutely. Men offer us the great savings of the future, our machinery is amazing in its ingenuity, but we have forgotten to apply inventiveness to our labor; yet every lay-off means idle machinery. The entire industrial plant of the world is always in process of being scrapped for the substitution of something better. Getting value from idle men and idle capital, wasted time, lost power, refuse material, making use of what is not now used—that is business progress."

The shortage of labor during the past year has focused attention on labor-saving devices, machinery and methods. The installation of such equipment has in some instances thrown an otherwise smooth working organization out of balance through the acceleration of the particular operation to which it was applied, and the failure to accelerate to like degree the operations which precede, as well as those which follow, the one affected. The resultant effect has been to cause a loss or waste which, for the time being at least, threatens to absorb or neutralize the benefits anticipated. Obviously, the control of physical expansion must be such as will avoid disruption of the main job of getting out the product—yet how often the true correlation and co-ordination of these two projects or efforts is not attained.

Methods of Obtaining Control

The more common methods of developing better control are

expressed in the term of "stopping the leaks," which implies tracing it to its prime source, as well as determining its volume. This again emphasize the need for an adequate survey of all pertinent facts before the proper corrective measures can be applied.

The ability to discover those facts and use them intelligently is the essence of executive ability. In the last analysis, elimination of waste through better control of all factors in an industrial enterprise is primarily dependent on the executive ability of those at the head of it. No one who calls himself an executive can afford to rest content with results achieved. He must continually educate himself to a broader understanding of principles and their application to the problems in hand. The present intensity of competition is resulting in more careful study of the ability of men to control the factors of the business intrusted to them. Not only are the executives of the larger organizations being subjected to rigid scrutiny from the angle of results produced, but investigation is being extended to those on whom these organizations depend for the distribution of their products.

Better control in business operations or in any of its subdivisions requires the establishment of standards against which actual accomplishment can be measured. Without such standards, it is not possible to determine accurately whether the maximum result is being obtained from any specific effort. Setting proper standards is a science in itself, in so far as it requires the understanding of what constitutes a practically attainable ideal. Standards may be exceeded, when what is expected is definitely known and understood.

The opportunity for improved control comes in the constant study of the departures from the standards, and the analysis of their causes. Once these are properly determined, the application of the corrective measures necessary in bringing the actual results closer to the desired ideal becomes a matter of relative cost, to be settled on the basis of whether or not the returns warrant the extra effort required.

That better control is a practical means of waste elimination is evidenced by any number of instances wherein the results obtained, while remarkable, have not even approximated the best known performance.

Mt. Vernon Pulp & Paper Co. Formed

[FROM OUR REGULAR CORRESPONDENT]

MOUNT VERNON, Wash., August 20, 1925.—With the filing of a petition for a Delaware corporation charter for the Mount Vernon Pulp and Paper Company, credence is given the rumors current that Mount Vernon is about to obtain a new industry with an estimated monthly payroll of approximately $75,000.

Pulp and paper of all kinds will be manufactured, when the plant is in operation. Straw and wood pulp will be turned out, these two materials being used to a large extent by the mill itself, although some will be shipped to other countries.

Eastern capital is financing the proposed factory, according to reports. It is estimated that the big industry will bring from 300 to 500 families into this city and increase the city's population from 1,200 to 2,500.

Gray & Creech Increase Capital to $400,000

[FROM OUR REGULAR CORRESPONDENT]

WINSTON-SALEM, N. C., August 24, 1925.—Gray & Creech, Inc., wholesale paper dealers, have filed notice of an increase in their capital stock to $400,000.

The rapid growth of the company has necessitated the increase in capital stock in order to carry fuller stocks and to add to the already splendid service that has done much to make the company the success that it is today.

The firm of Gray and Creech was organized in April, 1922, with S. Wilson Gray as president and treasurer of the company, and J. E. Creech secretary and sales manager. These men hold the same office today, no change having been made.

Decision on Surface Coated Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 26, 1925.—An important question has been decided by the Board of General Appraisers, sometimes known as the Customs Court, involving surface coated papers, a case which the Import Committee of the American Paper Industry considers not only important in itself, but in its reference to cases involving coated papers which the Import Committee has been working upon.

The sample of paper in question is described in the official records of the trial as "a marbelized paper, or a paper coated in imitation of a dark green marble. It is of the kind usually observed on the outside covers of check books and on the inside of book covers. It presents a mottled effect, the design having small light spaces indiscriminately placed over the dark background."

The importers claimed the paper to be properly dutiable at but 4½ cents per pound, under the provision of the tariff act for paper with the surface wholly or partly decorated. The New York appraiser classified the paper for duty at the rate of 5 cents per pound and 15 per cent ad valorem, under the provision for paper with coated surface or surfaces.

In the decision of the Board of General Appraisers it is stated in part:

"In order to be classifiable as surface coated paper within the meaning of Paragraph 1305 of the Act of 1922, it is not necessary to show that the whole surface is coated, or that any particular percentage of the surface is coated. It is enough that there is a substantial portion of the surface coated. Also, the provision for surface-coated paper is more specific than that for surface decorated paper, since the latter is intended to refer only to uncoated papers."

In the opinion written by General Appraiser Fischer, he adds:

"It seems unreasonable to attribute to Congress the deliberate intention to impose on, say, paper, the surface of which is covered with a plain white coating, or, for that matter, a coating of any one color, a duty of 5 cents per pound and 15 per cent ad valorem, while papers with a similar coating, only enhanced in appearance by decorations and fancy effects and patterns, are required to pay a specific duty of 4½ cents per pound only."

Vancouver To Have a Paper Bag Factory

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., August 27, 1925.—C. M. Bartram has severed his connection with The E. B. Eddy Company, Ltd., and has taken out a Dominion Charter under the name of Bartram Paper Products Ltd. with head office in Vancouver, B. C., and has announced his decision to operate a plant in Vancouver to manufacture square bottom grocery bags.

Mr. Bartram has just returned from the coast, where he has completed all arrangements for a factory and paper supply.

B. C. Manila and Kraft papers will be used in the manufacture of the grocery bags.

The latest type of Potdevin machines with individual motors are to be installed, and it is expected that the plant will be in operation during October.

Paper Case May Not Be Tried Until Spring

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 26, 1925.—It is probable that the Federal Trade Commission's case against the Pacific States Paper Trade Association will not be argued in the United States Supreme Court until next spring. Announcement has just been made by the Court that this case has been given a docket number of 368. As a general rule the court only hears about 300 cases during the session but the Commission will make a motion to have this case advanced.

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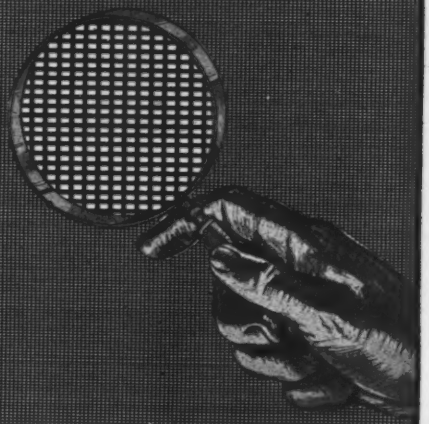

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Imports of Paper and Paper Stock

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NEW YORK IMPORTS

WEEK ENDING AUGUST 22, 1925

SUMMARY

News print .....369 bls.
Wrapping paper .....39 bls., 82 cs., 20 rolls
Printing paper .....78 cs., 188 bls.
Wall paper .....584 bls., 30 cs.
Cigarette paper .....3371 cs.
Packing paper .....238 rolls, 2 cs.
Surface coated paper .....197 cs.
Writing paper .....28 cs.
Filter paper .....11 cs., 20 bls., 50 rolls
Paper hangings .....6 cs., 3 bls.
Hanging stock .....1688 bls.
Wax paper .....1 cs.
Copy paper .....18 rolls
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Titan Shipping Co., Berengaria, Havre, 24 cs.
Thomas & Pierson, Berengaria, Southampton, 1 cs.

HANGINGS

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F. & R. Trading Corp., West Arrow, Antwerp, 1688 bls.

NEWS PRINT

Maurice O'Meara Co., Resolute, Hamburg, 93 bls.
J. P. Hefernan Paper Co., Clara, Trieste, 276 bls.

PRINTING PAPER

Martin & Bechtold, Stuttgart, Bremen, 11 cs.
Gallagher & Ascher, Minnekahda, London, 6 cs.
E. Dietzgen & Co., Westphalia, Hamburg, 28 cs.
J. Henschel, Resolute, Hamburg, 7 cs.
P. Puttman, Zeeland, Antwerp, 26 cs.
J. P. Hefernan Paper Co., Clara, Trieste, 188 bls.

WRAPPING PAPER

Wilkinson Bros. & Co., Inc., West Arrow, Antwerp, 39 bls.
International Accep. Bank, Westphalia, Hemburg, 58 cs.
F. L. Kramer & Co., Resolute, Hamburg, 19 cs.
F. C. Strype, Zeeland, Antwerp, 5 cs., 20 rolls.

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Okonite Callender Cable Co., Minnekahda, London, 238 rolls.
Phoenix Shipping Co., Westphalia, Hamburg, 2 cs.

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Guibout freres, Majestic, Havre, 14 cs.
R. Weill & Co., Liberty, Havre, 3 cs.
Globe Shipping Co., Rochambeau, Havre, 11 cs.

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Gevaert Co. of America, Zeeland, Antwerp, 1 cs.

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Roneo Co., Minnekahda, London, 18 rolls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Amer. Shipper, London, 4 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Amer. Shipper, London, 11 cs.
Orbis Products Trading Co., Sarcoxie, Bordeaux, 20 bls.
Max Weiss & Son, by same, 50 rolls.

TRACING PAPER

E. Dietzgen & Co., Westphalia, Hamburg, 10 cs.

COLORED PAPER

P. H. Petry & Co., Stuttgart, Bremen, 19 cs.
Overton & Co., by same, 4 cs.
E. Dietzgen & Co., Westphalia, Hamburg, 29 cs.
E. Daiber, Zeeland, Antwerp, 7 cs.

GOLD COATED PAPER

C. B. Richard & Co., Stuttgart, Bremen, 1 cs.

SURFACE COATED PAPER

P. H. Petry & Co., Westphalia, Hamburg, 6 cs.
Phoenix Shipping Co., Resolute, Hamburg, 9 cs.
P. Puttman, Zeeland, Antwerp, 137 cs.
Gevaert Co. of America, by same, 45 cs.

BARYTA COATED PAPER

Globe Shipping Co., S. Ventana, Bremen, 64 cs.
Globe Shipping Co., Pr. Roosevelt, Bremen, 53 cs.

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Phoenix Shipping Co., Stuttgart, Bremen, 4 cs.
Phoenix Shipping Co., Pr. Roosevelt, Bremen, 2 cs.

CARDBOARD

J. P. Hefernan Paper Co., Clara, Trieste, 28 bls.

PAPER

F. P. Gaskell & Co., Ontario, Havre, 10 cs.
Keferstein & Demonet, Westphalia, Hamburg, 1 box.
Guaranty Trust Co., Stavangerfjord, Oslo, 75 cs., 21 rolls.
Japan Paper Co., Rochambeau, Havre, 2 cs.
H. de Maguinn & Co., by same, 13 cs.
Coenca Morrison & Co., by same, 4 cs.
Standard Products Corp., by same, 66 cs.
A. Murphy & Co., A. Costa, Genoa, 3 cs.
J. P. Hefernan Paper Co., Clara, Trieste, 162 bls.
W. Hartman & Co., Inc., by same, 50 bls.

RAGS, BAGGING, ETC.

The Stone Bros. Co., Inc., Ontario, Harve, 20 bls. rags.
E. J. Keller Co., Inc., by same, 95 bls. bagging, 143 bls. rags.
Equitable Trust Co., by same, 71 bls. rags.
Anglo South American Bank, by same, 32 bls. rags.
National City Bank, by same, 162 bls. rags.
Amsinck Sonne & Co., Inc., by same, 31 bls. rags.
V. Galaup, by same, 10 bls. rags.
Royal Manufacturing Co., by same, 24 bls. cotton waste.
A. W. Fenton, Inc., Stuttgart, Bremen, 103 bls. rags.
Mechanics & Metals Natl. Bank, by same, 230 bls. rags.
Brown Bros. & Co., by same, 65 bls. rags.
Goldman Sachs & Co., by same, 141 bls. rags.
E. J. Keller Co., Inc., West Arrow, Antwerp, 235 bls. rags, 153 bls. bagging.
A. W. Fenton, Inc., by same, 137 bls. rags.
Atterbury & McKelvey, by same, 66 bls. rags.
Castle & Oberton, Inc., by same, 60 bls. rags.
L. H. Abenheimer, by same, 330 bls. rags.
Royal Manufacturing Co., by same, 96 bls. cotton waste.
C. R. Spence & Co., Chicago City, Bristol, 199 bls. rags.
National City Bank, by same, 118 bls. rags.
Pickfords Colonial Inc., London Commerce, London, 20 bls. rags.
Castle & Overton, Inc., Veendam, Rotterdam, 16 bls. rags.
Mechanics & Metals National Bank, Resolute, Hamburg, 155 bls. rags.
Irving Bank Columbia Trust Co., by same, 63 bls. rags.
E. J. Keller Co., Inc., Hellen, Barcelona, 260 bls. bagging, 98 bls. rags.
Equitable Trust Co., Hellen, Marseilles, 484 bls. rags.
New York Trust Co., by same, 90 bls. rags.
National Bank of Commerce, Hellen, Alexandria, 404 bls. rags.
Amsinck Sonne & Co., Inc., by same, 120 bls. rags.
Brown Bros. & Co., by same, 79 bls. rags.
National City Bank, Westphalia, Hamburg, 43 bls. jute waste.
Irving Bank Columbia Trust Co., by same, 44 bls. rags.
E. J. Keller Co., Inc., by same, 308 bls. rags.
L. H. Abenheimer, by same, 145 bls. rags.
W. Schall & Co., by same, 163 bls. jute waste.
Mechanics & Metals Natl. Bank, by same, 47 bls. rags.
E. J. Keller Co., Inc., S. Ventana, Bremen, 389 bls. rags.
D. M. Hicks, by same, 162 bls. bagging.
New York Trust Co., by same, 128 bls. linseys.
A. W. Fenton, Inc., Pr. Roosevelt, Bremen, 16 bls. rags.
Brown Bros. & Co., by same, 66 bls. rags.
The Stone Bros. Co., Inc., Liberty, Havre, 22 bls. rags.
L. H. Abenheimer, by same, 228 bls. rags.
D. I. Murphy, by same, 56 bls. rags.
D. M. Hicks, by same, 32 bls. rags.
L. Tulcin Sons, by same, 60 bls. rags.
V. Galaup, by same, 12 bls. rags.
Atterbury & McKelvey, by same, 35 bls. rags.
J. Krimerfeld, by same, 10 bls. rags.
Salomon Bros. & Co., by same, 64 bls. bagging.
The Stone Bros. Co., Inc., Liberty, Dunkirk, 3 bls. rags.
Salomon Bros. & Co., by same, 9 bls. rags.
E. J. Keller Co., Inc., Masaniello, Marseilles, 130 bls. rags.
Anglo South American Trust Co., by same, 117 bls. bagging.
Brown Bros. & Co., A. Costa, Genoa, 150 bls. rags.
A. W. Fenton, Inc., by same, 249 bls. rags.
The Stone Bros. Co., Inc., Carlier, Antwerp, 119 bls. rags.
D. C. Andrews & Co., by same, 394 bls. rags.
W. Schall & Co., by same, 211 bls. flax waste.
The Stone Bros. Co., Inc., Sarcoxie, St. Nazaire, 474 bls. rags.
E. J. Keller Co., Inc., by same, 290 bls. rags.
Katzenstein & Keene, Inc., Sarcoxie, Bordeaux, 37 bls. rags.
V. Galaup, by same, 36 bls. rags.
The Stone Bros. Co., Inc., by same, 112 bls. rags.
E. Butterworth & Co., Inc., Handicap, Marseilles, 46 bls. rags.
The Stone Bros. Co., Inc., Malacca Maru, Algiers, 252 bls. rags.
S. Silberman, Clara, Bari, 75 bls. rags, 179 bls. bagging.
Anglo South American Trust Co., Clara, Venice, 173 bls. rags.
Mechanics & Metals Natl. Bank, by same, 527 bls. rags.
Philadelphia National Bank, by same, 104 bls. rags.

OLD ROPE

Cohen & Co., Panuco, Nassau, 5 bls.
Brown Bros. & Co., Norefjord, Oslo, 50 coils.
Brown Bros. & Co., Carlier, Antwerp, 60 bls.
W. Schall & Co., Hellen, Barcelona, 40 coils.
International Purchasing Co., Liberty, Havre, 73 coils.
The Stone Bros. Co., Inc., Malacca Maru, Algiers, 60 bls.
E. J. Keller Co., Inc., Ontario, Havre, 92 bls.

(*Continued on page 62*)

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Imports of Paper and Paper Stock

(*Continued from page 60*)

WOODPULP

Castle & Overton, Inc., Stuttgart, Bremen, 545 bls. woodpulp.
Buck Kiaer & Co., by same, 800 bls. woodpulp.
E. M. Sergeant & Co., Norefjord, Oslo, 160 bls. chemical pulp.
J. Anderson & Co., by same, 500 bls. sulphite pulp.
Chase National Bank, by same, 1000 bls. sulphite pulp.
J. Anderson & Co., by same, 2310 bls. sulphite pulp.
The Borregaard Co., Inc., by same, 300 bls. sulphite pulp.
Castle & Overton, Inc., S. Ventana, Bremen, 955 bls. woodpulp.
Goldman Sachs & Co., by same, 345 bls. woodpulp.
Tidewater Papermills Co., Bornholm, Liverpool, N. S., 5766 bls. woodpulp.
E. M. Sergeant & Co., Stavangerfjord, Oslo, 160 bls. chemical pulp.
Chemical National Bank, by s ame, 600 bls. sulphite pulp.
M. Gottesman & Co., Inc., Clara, Sebenico, 4800 bls. woodpulp, 600 tons.

WOOD PULP BOARDS

Parsons & Whittemore, Inc., Argosy, Raumo, 191 bls., 28 tons.

CASEIN

Kalbfleisch Corp., Amer. Legion, B. Aires, 834 bags.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 22, 1925

Corn Exchange Bank, Sudbury, Hamburg, 10 cs. paper.
E. J. Keller Co., Inc., by same, 120 bls. ragpulp.
National City Bank, Hamelin, Bremen, 123 bls. rags.
Ira L. Beebe & Co., Inc., by same, 1150 bls. woodpulp.
E. J. Keller Co., Inc., Grootendyk, Mannheim, 258 bls. woodpulp.
National City Bank, Wset Harcuvar, Hamburg, 2319 bls. woodpulp.

NORFOLK IMPORTS

WEEK ENDING AUGUST 22, 1925

Castle & Overton, Inc., ... Germany, 140 bls. woodpulp.

BOSTON IMPORTS

WEEK ENDING AUGUST 22, 1925

J. P. Hefernan Paper Co., Clara, Trieste, 324 bls. news print.
Boston Herald, Trolleholm, Hallstavik, 17 rolls news print.
Nashua Gummed & Coated Paper Co., Trolleholm, Gothenburg, 168 rolls wrapping paper.
Baxter Paper Co., by same, 34 rolls paper.
Maurice O'Meara Co., by same, 34 bls. paper.
Anglo South American Trust Co., by same, 111 bls. rags.
Anglo South American Trust Co., Primero, Gefle, 169 bls. rags.
Furness Withy & Co., Nevisian, London, 41 bls. paperstock.
Crocker Burbank Co., by same, 298 bls. waste paper.
J. Cohen & Josephy, Davisian, Liverpool, 37 bls. rags.
Brown Bros. & Co., by same, 71 bls. rags.
J. B. Moors & Co., by same, 10 bls. rags, 104 bags hidecuttings.
Merchants National Bank, by same, 62 bls. rags.
1st National Bank of Boston, by same, 36 bls. rags.
J. T. Lodge & Co., by same, 23 bls. rags.
American Express Co., by same, 38 bls. rags.
W. Schall & Co., Davisian, Manchester, 56 bls. newscuttings.
Baring Bros. & Co., by same, 296 bls. rags, 40 bls. bagging, 335 bags hidecuttings.
J. B. Moors & Co., by same, 703 bags hidecuttings.
T. D. Downing & Co., by same, 228 bls. rags.
New England Waste Co., by same, 15 bls. rags.
Brown Bros. & Co., Clara, Trieste, 105 coils old rope.
J. B. Moors & Co., Samaria, Liverpool, 465 bags hidecuttings.
G. M. Graves Co., West Inskip, Rotterdam, 335 bls. rags.
Brown Bros. & Co., West Inskip, Antwerp, 111 bls. rags.
Carton & Co., by same, 58 bls. rags.
Maurice O'Meara Co., by same, 42 bls. bagging.
Salter & Sons, by same, 62 bls. rags.
2nd National Bank, by same, 241 bls. rags.
Forte Moran & Co., by same, 26 bls. rags.
Lagerloef Trading Co., Argosy, Raumo, 107 bls. woodpulp boards.
Atlantic National Bank, Nevisian, London, 200 bags casein.
Pagel Horton & Co., Inc., Erle, Hernosand, 1800 bls. sulphite pulp.
J. Anderson & Co., by same, 2700 bls. sulphite pulp.
Equitable Trust Co., by same, 6000 bls. sulphite pulp.
Price & Pierce Ltd., by same, Wallvik, 1300 bls. sulphite pulp.
Pagel Horton & Co., Inc., Trolleholm, Stutskar, 2000 bls. woodpulp.
Scandinavian Pulp Agency, Inc., by same, 2400 bls. woodpulp.
J. Anderson & Co., Trolleholm, Gothenburg, 3250 bls. sulphite pulp.
Scandinavian Pulp Agency, Inc., by same, 1778 bls. sulphite pulp, 5182 bls. kraft pulp.
Johanson Wales & Sparre Inc., by same, 36 bls. soda pulp.
The Borregaard Co., Inc., by same, 725 bls. dry pulp.
Nilsen Lyon & Co., by same, 1000 bls. mechanical pulp.
Pagel Horton & Co., Inc., Primero, Gefle, 3750 bls. sulphate pulp, 6000 bls. sulphite pulp.
Price & Pierce Ltd., Primero, Wallvik, 4800 bls. sulphite pulp.
Pagel Horton & Co., Inc., by same, 3000 bls. sulphite pulp.
J. Anderson & Co., Primero, Stugsund, 1750 bls. sulphite pulp.
Bulkley Dunton & Co., by same, 1750 bls. sulphite pulp, 750 bls. sulphate pulp.
Bulkley Dunton & Co., Primero, Sundsvall, 2375 bls. chemical pulp.
Scandinavian Pulp Agency, Inc., by same, 6250 bls. sulphate pulp, 250 bls. sulphite pulp.
Johanson Wales & Sparre Inc., by same, 1200 bls. sulphite pulp.
Pagel Horton & Co., Inc., by same, 3000 bls. sulphite pulp, 3300 bls. sulphate pulp.
Castle & Overton, Inc., ... Germany, 415 bls. woodpulp.

NEW ORLEANS IMPORTS

WEEK ENDING AUGUST 22, 1925

Castle & Overton, Inc., Meanticut, Antwerp, 192 bls. rags.
E. J. Keller Co., Inc., West Ira, Hamburg, 244 bls. rags.
E. J. Keller Co., Inc., Spaarndam, Rotterdam, 80 bls. rags, 208 bls. bagging.
E. J. Keller Co., Inc., Brush, Rotterdam, 338 bls. bagging.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 22, 1925

Bernard Judae & Co., London Commerce, London, 2 cs. drawing paper.
Strawbridge & Clothier, Liberty, Havre, 1 cs. writing paper.
N. Snellenberg, by same, 5 cs. writing paper.
O. G. Hempstead & Son, by same, 2 cs. writing paper.
E. H. Bailey & Co., by same, 3 cs. drawing paper.
The Stone Bros. Co., Inc., Ontario, Havre, 110 bls. rags.
E. J. Keller Co., Inc., by same, 210 bls. rags.
Baltimore Trust Co., by same, 307 bls. rags.
J. Lang Paper Co., London Commerce, London, 356 bls. rags.
Mechanics & Metals Natl. Bank, by same, 125 bls. old rope.
Equitable Trust Co., by same, 255 bls. waste paper.
A. W. Fenton, Inc., by same, 266 bls. rags.
Brown Bros. & Co., by same, 16 bls. rags.
Salomon Bros. & Co., Sarcoxie, St. Nazaire, 115 bls. rags.
The Stone Bros. Co., Inc., by same 68 bls. rags.
E. J. Keller Co., Inc., by same, 49 bls. rags.
Brown Bros. & Co., Galtymore, Leith, 71 bls. old rope.
Commercial Bank of Scotland, Manchester Merchant, Manchester, 66 bls. rags.
Guaranty Trust Co., by same, 74 bls. rags.
Philadelphia National Bank, by same, 52 bls. rags.
J. L. Vandiver, by same, 128 bls. rags.
The Stone Bros. Co., Inc., by same, 121 bls. wool scrap.
E. J. Keller Co., Inc., by same, 288 bls. bagging.
E. J. Keller Co., Inc., Napierian, Antwerp, 82 bls. bagging.
E. J. Keller Co., Inc., Hameln, Bremen, 67 bls. rags.
E. J. Keller Co., Inc., Hemland, Genoa, 58 bls. colored threads.
E. J. Keller Co., Inc., Dania, Copenhagen, 711 bls. rags.
The Stone Bros. Co., Inc., Liberty, Havre, 159 bls. rags, 32 bls. stringwaste, 41 bls. newscuttings.
Castle & Overton, Inc., by same, 23 bls. rags.
D. I. Murphy, by same, 44 bls. rags, 111 bls. bagging.
E. J. Keller Co., Inc., by same, 101 bls. rags.
V. Galaup, by same, 29 bls. rags.
D. M. Hicks, by same, 29 bls. rags.
Philadelphia National Bank, by same, 41 bls. rags.
A. W. Fenton, Inc., by same, 753 bls. rags.
D. I. Murphy, Liberty, Dunkirk, 103 bls. rags.
I. M. Hagy Waste Works, by same, 31 bls. rags.
New York Trust Co., Novian, London, 74 bls. rags.
Mechanics & Metals Natl. Bank, by same, 153 bls. rags.
D. M. Hicks, by same, 126 bls. wastepaper.
G. M. Graves & Co., by same, 134 bls. rags.
J. A. Steer, by same, 93 coils old rope.
A. W. Fenton, Inc., by same, 168 bls. rags.
D. I. Murphy, by same, 110 bls. bagging.
Brown Bros. & Co., Napierian, Antwerp, 108 bls. rags.
Philadelphia National Bank, by same, 26 bls. rags.
National Bank of Commerce, by same, 93 bls. rags.
W. Schall & Co., by same, 61 bls. rags.
Mechanics & Metals Natl. Bank, by same, 86 bls. rags.
Southwark National Bank, by same, 21 bls. rags.
New York Trust Co., Napierian, Hamburg, 22 bls. rags.
W. A. Cramer & Co., by same, 108 bls. rags.
Guaranty Trust Co., Scythian, Antwerp, 166 bls. old rope.
J. L. Vandiver, by same, 270 bls. flaxwaste.

(*Continued on page 64*)

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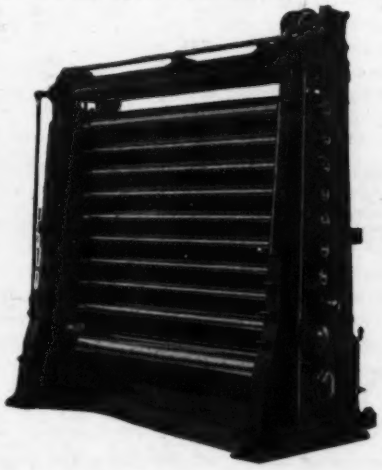

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Imports of Paper and Paper Stock

(*Continued from page 62*)

Market St. National Bank, by same, 134 bls. rags.
Castle & Overton, Inc., by same, 163 bls. rags.
A. Hurst, by same, 137 bls. rags.
Bank of N. Y., by same, 57 bls. rags.
J. L. Vandiver, by same, 94 bls. flaxwaste.
Market St. National Bank, Hameln, Bremen, 62 bls. rags.
National City Bank, by same, 399 bls. rags.
2nd National Bank, by same, 61 bls. rags.
Union National Bank, by same, 415 bls. rags.
Guaranty Trust Co., by same, 67 bls. rags.
Brown Bros. & Co., by same, 300 bls. rags.
Bankers Trust Co., by same, 149 bls. rags.
Castle & Overton, Inc., Eastern Dawn, Antwerp 61 bls. rags.
Castle & Overton, Inc., Karachi Maru, Hamburg, 179 bls. rags.
Castle & Overton, Inc., ... Germany, 1361 bls. woodpulp.
National City Bank, Otho, Buenos Aires, 304 bags casein.

Backus-Brooks Co. Buys Taylor Stokers

The Backus-Brooks Company, of Minneapolis, Minn., has purchased from the Taylor Stoker Company, Ltd., three 8-retort 21-tuyer, Type "H" Taylor stokers for installation in its paper mill at Kenora, Ont. These stokers will be installed under three 800 hp. Babcock & Wilcox boilers and are capable of operating these boilers at 300 per cent. of normal boiler rating. The stokers are manufactured by the Taylor Stoker Company, Ltd., at Belleville, Ont., and are of the same type as those made in this country by the American Engineering Company, of Philadelphia.

U. S. Gypsum Co. to Build Large Reservoir

BATAVIA, N. Y., August 24, 1925.—The United States Gypsum Company, of Oakland, has started work on a reservoir of 150,000,000 gallon capacity to supply the needs of the new paper mill which is now in the process of construction.

The reservoir will be located about a quarter of a mile south of the new mill, which will be between the plaster mill and the block plant. The reservoir will be filled from Drybrook, which runs through the company's property. The stream is dry through the summer months. H. V. Croswell, plant manager, said that it would supply sufficient water in the spring and fall to meet their needs.

The new paper mill, which will be housed in three large buildings, will have a capacity of eight tons of finished paper daily. A tremendous amount of water is used in the manufacture of paper and Mr. Croswell estimates that the new plant will consume about 500,000 gallon daily.

Arrange Chemical Exposition Program

The program of speakers for the intensive one-week course in chemical engineering fundamentals for college students, to be held in conjunction with the Tenth Exposition of Chemical Industries, September 28 to October 3 at the Grand Central Palace, New York, is gradually nearing completion. Some of the leading authorities in their respective fields in the chemical industry and associated groups, will lecture at the Students' Course at the Chemical Exposition.

Three general addresses on the chemical industry, chemistry in all industry, and the buying and selling of chemicals will be given. Dr. Charles H. Herty, president of the Synthetic Organic Chemical Manufacturers Association will speak on "The American Chemical Industry," Dr. Arthur D. Little on "The Application of Chemistry," William Haynes on "Buying and Selling the Products of Chemistry."

Addresses on special phases of chemical engineering practice will be given as follows: "The Commercial Application of the Disintegrating Mill" by Pierce H. Travis of the National Homogenizer Corporation; "Separation of Solids from Liquids—Filtration, Grading, Classifying and Thickening" by Arthur Wright of the Filtration Engineers, Inc.; "Screening, Grading and Classifying" by Albert R. Reed of W. S. Tyler Company; "Handling of Materials—Intraplant Transportation" by A. E. Marshall of the Corning Glass Works; "Ceramics in the Chemical Plant," by Ross C. Purdy, secretary of the American Ceramic Society; "Heat Resisting Alloys" by Arlington Bensel, of Victor Hybinette, Inc.; "New Developments and Operations in Thickening and Clarification" by Noel Cunningham of the Hardinge Company; "Liquids and Their Centrifugal Separation" by W. D. Cleary, of the De Laval Separator Company; "Dryers and Drying," by F. E. Finch of the Ruggles Coles Engineering Corporation; "Conveying with Steel Belting" by James S. Pasman, of Sandvik Steel, Inc.; "Pyrex Glass" by A. E. Marshall of the Corning Glass Works; "Emulsions and Emulsification" by Pierece M. Travis of the National Homogenizer Corporation; "Lacquers as a Protective Coating" by Arthur Orr of the Commercial Solvents Corporation; "Bakelite" by T. S. Taylor of the Bakelite Corporation.

The speakers scheduled thus far represent about half of the finished program for the Students' Course, it being planned to add almost an equal number of additional well-known speakers before completion of the full program. A number of leading engineers have been scheduled tentatively, and definite announcement of their addition to the program will be made later. The Course is open to all college students in chemistry or chemical engineering, or others in the industry who desire to go over a one week's course in the fundamentals of chemical engineering. Lectures will be held each morning of the Exposition at the Grand Central Palace.

No charge is made to those who attend.

Paper Imports Increase in Germany

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 19, 1925.—Imports of paper into Germany during the first four months of this year have been steadily increasing says a report to the Paper Division of the Department of Commerce, rising from 247 metric tons in January, 345 in February, 388 tons in March, to 481 tons in April. Exports on the other hand have dropped from 30,166 tons in January to 28,309 in February, rising slightly in March to 28,817 tons and dropping again in April to 24,353 tons.

Conwill Fibre Co. Starts at Milton, N. H.

MILTON, N. H., August 24, 1925.—The Conwill Fibre Company, composed of Max Cohen and Harry Wills, has started a plant here for the manufacture of Counter, inner sole, trunk, suit case and special fibre boards. The equipment consists of three 1,000 lb. beaters, one Jordan, one rotary and one 48-inch three cylinder; widest trimmed sheet, 36 inches. The plant has a capacity of 10,000 lbs. per 24 hours.

United Paperboard Plant Burned

URBANA, Ohio, August 24, 1925.—A fire caused from spontaneous combustion, caused $10,000 damage at the United States Paper Board Company last week. The fire started in a store room of the building in which was stored between 40 and 50 carloads of waste paper, used in the manufacture of strawboard.

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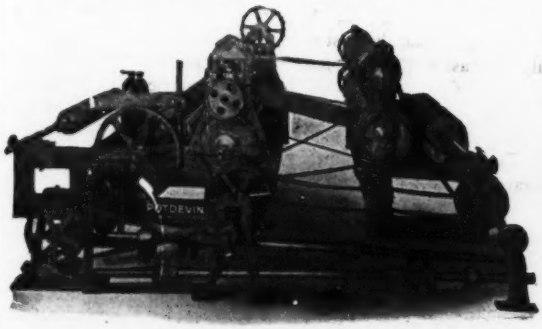

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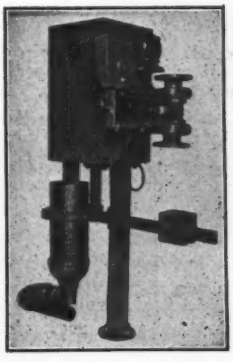

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, August 26, 1925.

The paper market is taking on a new attitude these days as September approaches with its promise of some of the real high lights of the year. The pessimistic atmosphere which has existed in some quarters has disappeared entirely and in its place is seen a new spirit of genuine confidence. The better assurance that is felt everywhere is doubtless due to the fact that business has weathered the summer in somewhat better shape than most of the paper men anticipated and in a great deal better shape than the pessimists had believed possible. The market has never dragged at the anchor as it did last summer, business has never descended to so low an ebb and the paper demand in comparison, week for week, has been considerably better than it was for 1924. While cautious buying has not yet been eliminated there is a fair prospect that this fall will see less adherence to it, that trading will be along much broader lines and that business will show marked gains in volume. There has been no excess buying during the summer. Consumers have been satisfied to meet their immediate demands and September 1 will find them with little stock on hand to meet the new business which will come to them. They will have to do more extensive buying and the chances are they will be sending in hurry-up orders in steadily increasing volume all through September. That they are preparing for this likelihood is indicated by the flood of inquiries which are coming into the market. If half of these inquiries develop into actual business the market is destined to pass through a very active period before long.

News print has passed through the trying summer period without lapsing into anything that could possibly be construed as a slump. Probably there has never been a year when the big papers have continued so near their normal mark during the hot weather period as they have this year. Circulation has to some extent been on an inflated character and has been kept up my means of energetic circulation campaigns but that does not detract from the fact that news print consumption has proceeded in a consistent and regular way.

Box board is improving constantly. The demand is excellent at this time. Fine papers, in general, are in fairly satisfactory condition and coarse papers are taking on new vigor. Tissues are beginning to wake up and they are expected to improve from now on as orders for Christmas business will be coming in more and more from now on.

Paper specialties continue to enjoy a superior demand. They may slacken their pace as cooler weather sets in but they have certainly seen an unusually prosperous summer.

Mechanical Pulp

Mechanical pulp is moving fairly freely at this time. Most of the business is against contracts and some of the consumers are commencing to catch up on recent arrearages. Producers are not complaining and feel that the conditions are favorable to a steadily increasing business in the near future. Owing to the exceptional working conditions which have prevailed throughout the summer the producers are plentifully stocked to meet the demands which are bound to multiply soon. The market continues firm in tone.

Chemical Pulp

The chemical pulp market is unusually strong just now and those who seek price concessions are being disappointed. The mills have sufficient orders to keep them going at a satisfactory pace and the foreign stock is well sold ahead. It is almost a certainty that any changes occurring in a price way within the next month will be upward as there is nothing to signify the justification for a downward course.

Old Rope and Bagging

There is a little more activity in both old rope and bagging but the market is still quiet and far from what it should be. Some of the dealers believe that a marked improvement will occur early in September while others are less optimistic, fearing that the market is destined to lag along at its present pace for some weeks to come.

Rags

The low grades are the most animated feature in the rag market at present although there is a somewhat better call for all the higher grades. Roofing stock is enjoying the best demand and prices have advanced. There is an awakening interest in foreign stock. The market is not overloaded with stock at the present moment, and, in fact, there is a shortage of stock in some of the grades. If the fall demand sets in as strenuously as some of the rag men anticipate it will mean a general scurrying about the market to secure some of the stock which is bound to be in demand. It is said, however, that considerable stock has been collected and held in reserve by the collectors who believe that a radical advance is bound to occur sooner or later and that they will be able to dispose of all the stock they have on hand at a somewhat better price.

Waste Paper

While prices are not yet changing in the waste paper market they appear to be trembling on the verge of an advance. Board mills are not buying as liberally as they were a week or two ago. There is little stock in certain grades, folded newspapers being particularly scarce. The attitude of the market regarding concessions has changed completely and today most of the dealers are holding fast to their prices and are refusing to shade them unless the business offered is particularly enticing in volume.

Twine

There is a very slight improvement in twine. This is probably a forerunner of orders which are coming in forecasting the approaching holidays. Prices remain as they have been all summer and there will probably be no change until the twine demand becomes much greater than it is at the present time.

Fidalgo Pulp Mfg. Co. Starts Mill

ANACORTES, Wash., August 20, 1925.—The Fidalgo Pulp Manufacturing Company started its new groundwood mill at this place August 10. The plant consists of one wet machine, one dry machine and one grinder. Electric power is used. The production capacity of the plant is 50,000 lbs. per 24 hours.

The officials of the company are Ossian Anderson, president; R. S. Talbot, vice president and superintendent; and Louis Muench, secretary-treasurer.

WOOD PULP
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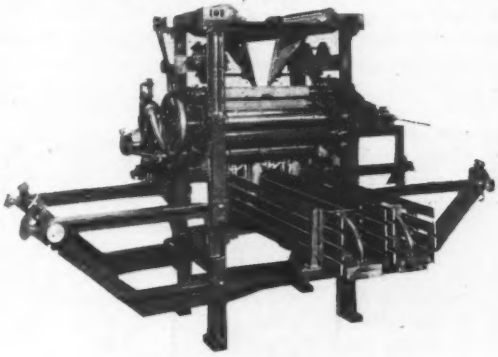

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, August 26, 1925.

The approach of September finds the chemical market in an awakening mood with every indication of a favorable outlook for fall business. While it would be untrue to speak of the market as an animated one at the present time, it can be said with perfect propriety that the tone is better, that underlying tendencies are to betterments and that all that is needed to set the wheels revolving with greater rapidity is the advent of the fall period. Prices remain unchanged and it will be a month probably before the manufacturers will quote their schedules for next year. It may be later than that before the announcements are made this year for many hold to the opinion that the manufacturers will take more time than usual this year to watch things definitely take shape. In that case it may be well along in October before they make the announcements which they are accustomed to make in late September. Of course, it is impossible to get any direct line on what the new schedules are likely to be, but it is stated that the chances favor a higher price on two of the paper-making commodities,—namely, alum and soda ash. The feeling exists among the manufacturers that the prices on these two items are too low at the present time and that conditions will justify an advance for next year. Prices as a whole, however, will probably not vary greatly from the present quotations and in many cases the manufacturers are expected to be satisfied if they can maintain the present schedules. Contract business is very satisfactory on most of the commodities as September draws near. The consumers are no longer dodging their contract quotas to any extent. In fact, all during the present month they have been drawing their full quotas and in many instances have been exceeding them. The excess withdrawals at this time, however, might create a false impression upon the uninitiated for these excess withdrawals are only taking up the arrearages and making good the shortages contracted in withdrawals during April and May. However, it shows that the consumers are getting into line, that they are encouraged by the fall outlook and that they are being actuated by new confidence. While spot buying is still lagging it has improved very materially and consumers are holding themselves less rigidly to the hand-to-mouth regulations which have so closely bound them.

BLANC FIXE.—The demand for blanc fixe is broadening out considerably, consumers during the past week exhibiting less of the super-caution than they have shown for some time. Buying here has been on such a guarded basis for so long a period that it would appear as though the time was very near when the floodgates would open and the buyers would take a more generous view of his future needs. Business is steady but the orders are piecemeal orders of small volume for the most part. The pulp is still selling at from $60 to $70 a ton and the powder at from $75 to $90 a ton.

BLEACHING POWDER.—The bleaching powder market is firm at this time, the demand being very good and having shown a marked improvement within the past two weeks. Contract business is particularly good. One dealer stated on Monday that there had not been an instance during the entire month of August where a bleach consumer on his list had failed to draw his full quota while, in many instances, quotas were exceeded, one consumer increasing his quota by 30 per cent. The price on bleach is still 1.9 cents a pound.

CAUSTIC SODA.—Caustic Soda does not show as much tendency to go ahead as many of the commodities. Contract business holds up fairly well but there is a minimum of spot buying. September, however, should help caustic soda climb into position and it is expected that it will. The quotation is from 3.1 to 3.15 cents a pound.

CASEIN.—Casein is in admirable condition. It has passed through the entire summer without contracting any symptoms of sleeping sickness and it is facing the fall with every assurance of being one of the market's features. The price is 12½ cents a pound and, while there has recently been a tendency to shade the price occasionally that disposition has passed from the market.

CHINA CLAY.—China clay bids to duplicate, during the next few weeks, that period of animation which preceded the hot weather spell. Its demand has been consistent and satisfactory right along but it has been growing stronger recently and fall will probably give it increased impetus. The outlook bears every earmark of busy times ahead for it. The imported grades are still quoted at from $16 to $20 a ton and the domestic grades at from $12 to $15 a ton.

CHLORINE.—Chlorine is having an uphill road to travel. Consumers of this commodity stick rigidly to their apparent resolve to buy only such quantities as they need for immediate requirements and orders are consequently straggling in for small quantities. There are no available concessions in sight, however, and such buying as there is has to be done at the price which is from $4.50 to $7.00 a pound in tanks.

ROSIN.—Rosin demand, which has been almost spectacular for some time, remains as animated as ever. While the price fluctuates in a characteristic way it stays close to the $10 level, the naval store centers quoting at this writing $10.10.

SALT CAKE.—There has been a very appreciable improvement in salt cake. September will find it in prime condition and buying is certain to proceed on an expanded basis. The price is firm and it is believed that the present price may be extended into next year. The quotation is from $16 to $17 a ton.

SODA ASH.—Soda ash is still more or less engulfed in the doldrums. The contract business is not so bad but the lack of spot buying is keeping soda ash back. The price quoted is 1.38 cents a pound on a flat basis at the works.

SULPHATE OF ALUMINA.—Sulphate of alumina is in a slightly better position but is still slow. There is reasonable contract business but the spot demand has been negligible and is not yet picking up to any extent. This, however, is one of the commodities which is expected to improve by leaps and bounds within the next two or three weeks. The commercial grades are quoted at from 1.40 to 1.45 cents a pound at the Eastern Works and the iron free at from 2.10 to 2.25 cents a pound.

SULPHUR.—Sulphur continues to fulfill its consistent contract demand, withdrawals proceeding on a satisfactory basis while the price remains at from $19 to $20 a ton.

TALC.—Talc is, perhaps, slightly better but the demand is very slow and it will probably take it some time to get into a really favorable position. Meanwhile the old price of from $17 to $18 is still maintained.

Boilers Collapse at Lakeview Paper Plant

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 17, 1925.—Installation of two large boilers in the Lakeview Paper Company, of Neenah received a setback several days ago when the boilers collapsed. They were being installed by a Milwaukee firm and were nearing completion when the accident occurred. A big hole, the size of one of the boilers was torn in the power house as a result. No one was injured. The job will be started over again and some of the material will be used, as it was not damaged.

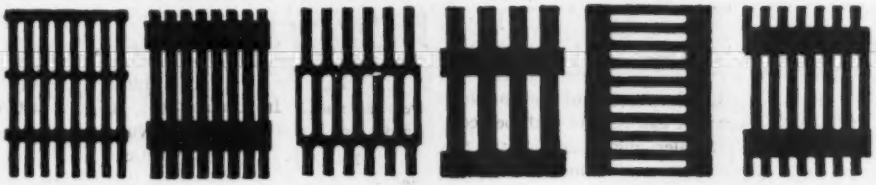
Menasha Printing Co. Buys Ashland Mill

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 17, 1925.—The Menasha Printing and Carton Company has become the possessor of the Ashland Paper Mill, purchased a year ago by T. A. Shaw & Co., of Chicago, at a bankrupt sale. The new owners will continue operations.

PERFORATED METALS

All sizes and shapes of Holes



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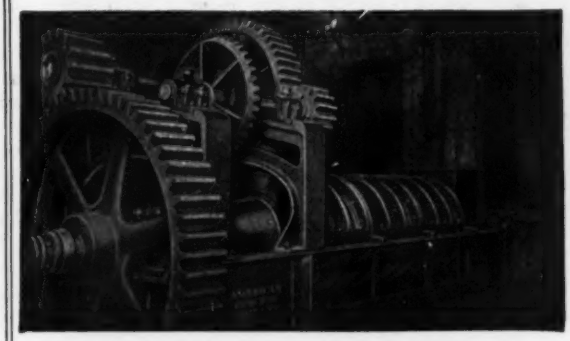

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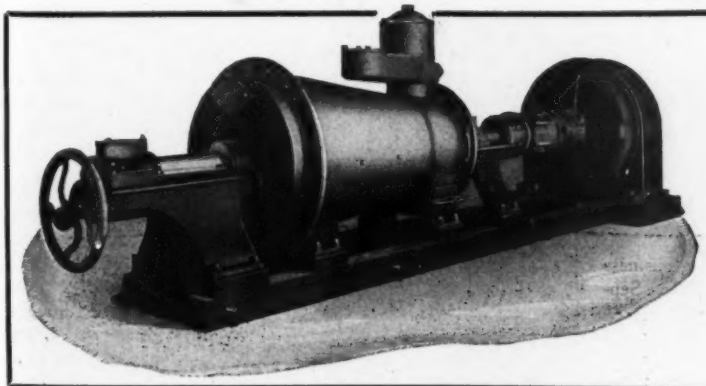

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BONDS	BID	OFFERED
Abitibi Power and Paper, Gen. 6s 1940	101	103*
Advance Bag and Paper, 7s 1943	98	100*
Bastrop Pulp and Paper, 7½s 1932	104	108*
Brompton Pulp and Paper, 6s 1927	94	96
Beaver Board, 8s 1933	92	94
Bedford Pulp and Paper, 6½s 1942	98	...
Berkshire Hills Paper Co., 8s 1941	...	80
Beaver Board, N. Y. Curb, 8s 1933	93	95
Beaver Products Corp., 7½s 1942	104	106
Belgo Canadian Paper, 6s 1943	100	101
Brown Paper Co., 8s 1931	102	...
Berlin Mills, 5s 1931	98	...
Bryant Paper Co., 6s 1942	99	102*
Brown Company Serial, 6s 1925-43	97	100
Central Paper 6½s 1925-42	91	94
Cape Breton Pulp and Paper, 6s 1932	100	...
Carthage Sulphite Pulp and Paper, 8s 1941	40	50
Champion Coated Paper Co., 6s 1924-34	...	102
Champion Fibre Co. Notes, 8s 1930	101	...
Cherry River Paper, 5s 1929	98	100*
Donnaconna Paper Co., Ltd., 6s 1940	99	101
Eddy Paper, 7½s 1931	97	...
Eagle Paper, 6½s 1932	96	100
Escanaba Paper, 6s 1933	87	95*
Fox River Paper, 7s 1931	100	...
Fort Orange Paper Co., 7s 1942	95	99
Eddy Paper Co., 7½s 1931	95	...
Gilbert Paper Co., 7s 1927	96	...
Gilbert Paper Co., 6½s 1923-29	101	102*
Hammermill Paper Co., 6s 1930-39	99	...
Hercules Corp'n, 8s 1936	100	...
Hummell, Ross Fibre Corp., 7s 1925	90	...
Jessup & Moore Paper Co., 6s 1939	90	97
Kenmore Pulp and Paper Co., 6s 1937	90	...
Lake Superior Pulp and Paper, 6s 1941	105	...
Mattagami Pulp and Paper, 6s 1937	90	...
Marinette & Menominee, 7½s 1936	104	...
National Paper and Type, 6s 1947	96	99*
Oswego Falls Corp., 8s 1942	102	105
Orono Pulp and Paper, 5s 1941	93	96*
Orono Pulp and Paper, 6s 1943	97	100*
Oxford Paper Co., 6s 1947	101	...
Paterson Parchment Paper, 5½s 1927-28	98	100
Paterson Parchment, 6s 1938	98	100
Parker Young Co., 6½s 1944	92	96
Price Bros. & Co. Ltd., 6s 1943	100	102
Provincial Paper Mills, Ltd., 6s 1940	97	...
Riordon Co., Series A, 8s 1940	115	118
Riordan Paper, 6s 1924	95	...
Riordan Pulp and Paper, Ltd., 6s, 1929	33	35
River Raisin Paper, 8s 1936	104	106
St. Maurice Paper Co., Ltd., 5½s, 1929	98½	99¾
St. Regis Paper, 6½s, 1929-35	97	102
Smith (Howard) Paper Mills, 7s 1941	98	100
Smith (Howard) Paper Mills, 6s 1934	98	...
St. Croix Paper, 5s 1923-37	95	...
Stevens & Thomson Paper, 6s 1942	88	92
Spanish River Pulp and Paper, 6s 1931	105	108
Spanish River Pulp and Paper, Gen 8s 1941	106	109
Ticonderoga Pulp and Paper Co., 6s, 1940	91	95
Ticonderoga Pulp & Paper 1-5, 1930	88	93
S. D. Warren Company, 6s, 1945	97	100
Whittaker Paper, 1st 7s 1942	96	98
Watab Paper Co., 6½s 1942	100	104
Waterway Paper Products, 7s 1924-27	95	100
Wayagamack Pulp and Paper, Ltd., 6s 1951	87	90

STOCKS	BID	ASKED
Abitibi Power and Paper, Com	65	68
Abitibi Power and Paper, Pfd	104	...
Advance Bag and Paper, Com	8	12*
Advance Bag and Paper, Pfd	77	...
Beaver Board, Com.	4	6
Beaver Board, Pfd	32	35
Bryant Paper, Cap	12	...
Bryant Paper, Pfd	9	...
Chicago Mill & Lumber Co., Com	63	...
Chicago Mill & Lumber Co., Pfd	98	104
Crown Williamette, Com	93	98*
Crown Williamette, 7% A, Pfd	98	SW
Donnaconna Paper, Com	42	48
Donnaconna Paper, Pfd	93	98*
Great Northern Paper, Cap	260	270
Jessup & Moore Paper, Pfd	73	77
International Paper Co., Com	64	66
International Paper Co., Pfd. 6%	75	80
Mengel Company, Com	64	68
Mengel Company, Pfd	83	93
Oxford Papers, Com	93	97
Oxford Paper Co., Pfd	98	...
Provincial Paper Co., Com	94	98
Provincial Paper Co., Pfd	99	...
Price Brothers, Cap	39	40
St. Croix Paper	185	215
St. Maurice Paper Co., Cap	82	85
St. Regis Paper Co., Cap	54	56
Spanish River Pulp and Paper, Com	104	105
Spanish River Pulp and Paper, Pfd	115	117
Ticonderoga Pulp and Paper, Cap	145	...
West Virginia Pulp and Paper, Cap	44	47
West Virginia Pulp and Paper, Pfd	95	100
Whittaker Paper, Com	25	35
Whittaker Paper, Pfd	55	...

* Nominal.

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Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub Sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.50	@ 3.90
Rolls, transit	3.75	@ 4.25
Sheets	4.00	@ 4.25
Side Runs	3.25	@ 4.00
Book, Cased—		
S. & S. C.	7.00	@ 9.75
M. F.	6.25	@ 8.75
Coated and Enamel	8.00	@15.00
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White No. 1	.70	@ .90
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.65	@ .75
Kraft	.85	@ .95
Manila	.70	@ .80
Kraft—		
No. 1 Domestic	5.50	@ 6.25
No. 2 Domestic	4.50	@ 5.25
Imported	5.50	@ 5.75
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.50	@ 4.00
Fibre Papers—		
No. 1 Fibre	4.50	@ 5.00
No. 2 Fibre	4.25	@ 4.75
Common Bogus	2.50	@ 2.75
S. Screening	3.00	@ 3.50
Card Middles	4.00	@ 5.00
Boards—per ton—		
News	45.00	@47.50
Straw	57.00	@60.00
Chip	42.00	@45.00
Binders' Boards	72.50	@77.50
Sgl. Mla. Ll. Chip	58.00	@60.00
Wood Pulp	70.00	@75.00
Container	62.50	@67.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.75	@ 2.00
Ground Wood—		
Screenings	20.00	@25.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	33.00	@37.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@32.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	4.00	@ 4.50
Easy Bleaching	2.80	@ 3.25
No. 1 strong unbleached	2.75	@ 3.25
No. 2 strong unbleached	2.55	@ 2.85
No. 1 Kraft	2.95	@ 3.20
Sulphate—		
Bleached	3.65	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.75	@ 4.50
Easy Bleaching Sulphite	3.00	@ 3.25
News Sulphite	2.55	@ 2.80
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.75	@ 3.25
Soda Bleached	4.00	@ 4.25

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	14.25	@15.00
New White, No. 2	8.00	@10.00
Silesias No. 1	10.50	@11.50
New Unbleached	14.00	@15.00
Washables	6.50	@ 9.25
Fancy	9.75	@10.25
Blue Overall	10.00	@11.00
New Blue Prints	7.50	@ 8.50
New Soft Blacks	5.75	@ 6.20
Mixed Khaki Cuttings	7.00	@ 8.00
Pink Corset Cuttings	10.25	@10.75
Pink Muslin	10.00	@10.50
New Light Seconds	3.25	@ 3.50
O. D. Khaki Cuttings	7.00	@ 8.00
Men's Corduroy	6.25	@ 6.75
New Mixed Blacks	4.00	@ 4.50

Old Rags

White, No. 1—		
Repacked	6.50	@ 7.50
Miscellaneous	6.50	@ 7.00
White, No. 2—		
Repacked	4.25	@ 4.50
Miscellaneous	3.75	@ 4.25
St. Soiled, White	3.00	@ 3.50
Thirds and Blues—		
Repacked	4.00	@ 4.25
Miscellaneous	3.25	@ 3.50
Black Stockings	3.75	@ 4.25
Roofing Rags—		
Cloth Strippings	2.50	@ 2.75
No. 1	2.40	@ 2.50
No. 2	2.40	@ 2.50
No. 3	2.25	@ 2.50
No. 4	2.30	@ 2.40
No. 5A	1.50	@ 1.75

Foreign Rags

New Light Silesias	9.50	@10.50
Light Flannelettes	10.50	@11.50
Unbleached Cottons	14.00	@15.00
New White Cuttings	14.00	@15.00
New Light Oxfords	10.00	@11.00
New Light Prints	9.00	@10.00
New Mixed Cuttings	4.25	@ 4.50
New Dark Cuttings	4.25	@ 4.75
No. 1 White Linens	10.00	@11.00
No. 2 White Linens	7.25	@ 8.25
No. 3 White Linens	6.25	@ 6.75
No. 4 White Linens	4.50	@ 5.50
Old Extra Light Prints	4.25	@ 4.75
Ord. Light Prints	3.75	@ 4.25
Med Light Prints	3.75	@ 4.25
Dutch Blue Cottons	4.00	@ 4.50
Ger. Blue Cottons	3.75	@ 4.00
Ger. Blue Linens	4.25	@ 4.75
Checks and Blues	3.25	@ 3.50
Linsay Garments	2.50	@ 2.60
Dark Cottons	2.40	@ 2.50
Shoppery	2.30	@ 2.40
French Blues	4.00	@ 4.50

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—		
Foreign	3.15	@ 3.25
Domestic	3.15	@ 3.25
Wool Tares, light	2.50	@ 2.60
Wool, Tares, heavy	2.60	@ 2.70
Bright, Bagging	2.55	@ 2.65
Mixed Bagging	2.30	@ 2.40
Sound Bagging	2.10	@ 2.20
Roofing Bagging	2.00	@ 2.25
Manila Rope—		
Foreign	5.65	@ 6.00
Domestic	6.50	@ 7.00
New Bu. Cut	3.60	@ 3.85
Hessian Jute Threads—		
Foreign	4.00	@ 4.25
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.50	@ 3.70
Hard, White, No. 2	3.25	@ 3.50
Soft, White, No. 1	2.80	@ 2.90
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag	1.25	@ 1.40
Solid Flat Book	1.25	@ 1.40
Crumpled No. 1	1.25	@ 1.35
Solid Book Ledger	1.70	@ 1.80
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.25	@ 2.40
New Cut. No. 1.	1.85	@ 2.25
Extra No. 1 old	1.40	@ 1.50
Print	1.20	@ 1.30
Container Board	.70	@ .90
Bogus Wrapper	1.00	@ 1.10
Old Krafts Machine compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.85	@ 2.00
Strictly Overissue	1.05	@ 1.15
Strictly Folded	.75	@ .85
No. 1 Mixed Paper	.65	@ .70
Common Paper	.50	@ .55

Twines

Cotton—(F. o. b. Mill)—		
No. 1	.42	@ .45
No. 2	.41	@ .43
No. 3	.40	@ .42
India, No. 6 basis—		
Light	.19	@ .20
Dark	.17	@ .19
B. C., 18 basis	.39	@ .41
A. B. Italian, 18 Basis	.56	@ .61

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Finished Jute—			
Dark, 18 basis	.30	@	.31
Light, 18 basis	.28	@	.30
Jute Wrapping, 3-6 Ply—			
No. 1	.18	@	.20
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.15	@	.17
Fine Tube Yarn—			
5-ply and larger	.20	@	.23
4-ply	.21	@	.24
3-ply	.22	@	.25
Unfinished India—			
Basis	.14	@	.15
Paper Makers' Twine			
Balls	.12	@	.13
Box Twine, 2-3 ply	.14	@	.15
Jute Rope	.20	@	.40
Ameri. Hemp, 6	.30	@	.32
Sisal Hay Rope—			
No. 1 Basis	.14	@	.16
No. 2 Basis	.10	@	.12
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

CHICAGO

Paper

F. o. b. Mill

All Rag Bond	35	@	40
No. 1 Rag Bond	25	@	35
No. 2 Rag Bond	14	@	25
Water Marked Sulphite	9	@	12
Sulphite Bond	7	@	10¼
Sulphite Ledger	9	@	12
Superfine Writing	18	@	24
No. 1 Fine Writing	14	@	18
No. 2 Fine Writing	12	@	14
No. 3 Fine Writing	9	@	12
No. 1 M. F. Book	5½	@	7½
No. 1 S. & S. C. Book	6	@	7¼
Coated Book	7½	@	10
Coated Label	7½	@	10
News—Roll, mill	3½	@	4¼
News—Sheets, mill	3¾	@	4¾
No. 1 Manila	4½	@	5½
No. 1 Fibre	4	@	5
No. 2 Manila	4	@	4½
Butchers' Manila	3¾	@	4¼
No. 1 Kraft	6	@	6½
No. 2 Kraft (Southern Grade)	4	@	4½
No. 2 Kraft (Northern Grade)	5	@	5¼
Wood Tag Boards	4¼	@	6¼
Sulphite Screenings	3	@	3¼
Manila Tissue, 24x36 sheet	7¼	@	7¾
White Tissue, 20x30 sheet	7¼	@	7½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	45.00	@	47.50
Solid News	47.50	@	50.00
Manila Line Chip	57.50	@	60.00
Container Lined—			
(Delivered Central Territory)			
85 Test	—	@	75.00
100 Test	—	@	80.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.15	@	3.25
White Envel. Cuttings	3.15	@	3.25
No. 1 Soft Shav.	2.85	@	2.95
No. 1 Mixed	1.45	@	1.50
No. 2 Mixed	1.15	@	1.20
Ledger and Writings	1.50	@	1.55
Solid Books	1.40	@	1.45
No. 1 Light Books	1.00	@	1.05
Blanks	1.90	@	1.95
Kraft	2.10	@	2.20
New Kraft Cuts	2.30	@	2.35
Manila Envelope Cuttings	2.40	@	2.50
Ex. No. 1 Manila	2.00	@	2.10
Print Manila	.90	@	.95
Folded News (overissue)	.85	@	.90
Old Newspapers—			
No. 1	.70	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.75
No. 2	.50	@	.55
Straw Clippings	.75	@	.80
Binders' Clippings	.70	@	.75
Roofing Stocks, f. o. b. Chicago, Net Cash—			
No. 1	47.00	@	52.00
No. 2	45.00	@	50.00
No. 3	43.00	@	48.00
No. 4	41.00	@	46.00

BOSTON

Paper

Ledgers—			
Sulphite	.08½	@	.18
Rag content	.18	@	.36½
All Rag	.38	@	.50
Bonds—			
Sulphite	.07½	@	.10½
Rag Content	.17	@	.45
All Rag	.36½	@	.51
Writings	.08	@	.20
Superfines	.22	@	.50
News	.04	@	.04½
Book, Super	.08	@	.10
Book, Coated	.09	@	.14
Coated Litho	.09½	@	.15
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.12
Manila, Sul. No. 1	.05	@	.05
Manila, Sul. No. 2	.03¾	@	.04¼
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.05¾	@	.06
Common Bogus	.03½	@	.04
Straw Board	—	@	50.00
News Board	—	@	50.00
Chip Board	—	@	47.50
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board	75.00	@	82.50
Wood Pulp Board	80.00	@	85.00
Binder Boards	75.00	@	85.00
Tarred Felts—			
Regular	61.00	@	63.00
Slaters	66.00	@	68.00
Best Tarred, 1 Ply, roll	1.50	@	1.60
Best Tarred, 2 Ply, roll	1.70	@	1.80
Best Tarred, 3 Ply, roll	2.00	@	2.10

Old Papers

Shavings—			
No. 1 Hard White	4.00	@	3.75
White Blank News	1.75	@	2.00
Manila Env. Cuttings	2.80	@	3.00
No. 2 Hard White	3.25	@	3.50
No. 1 Soft White	.04½	@	—
No. 2 Soft White	.03¼	@	—
No. 1 Mixed	1.60	@	1.75
No. 2 Mixed	1.25	@	1.50
Solid Ledger Stock	2.00	@	1.75
Writing Paper	—	@	1.50
No. 1 Books, Heavy	1.25	@	—
No. 1 Books, Light	—	@	1.25
No. 1 New Manila	2.50	@	2.60
No. 1 Old Manila	1.75	@	2.00
Print Manila	1.05	@	1.20
Old Kraft	2.25	@	—
Overissue News	1.00	@	6.54
Old Newspapers	.70	@	5.54
No. 1 Mixed Paper	.60	@	.47½
Box Board, Chip	.60	@	.50

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	—	@	3.00
Domestic	—	@	3.00
Manila Rope	6.00	@	6.50
Mixed Rope	2.00	@	—
Scrap burlaps	—	@	2.37½
Wool Tares, heavy	—	@	3.00
Mixed Strings	—	@	1.90
New Burlap Cuttings	—	@	3.75

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.15½	@	.15
Silesias, No. 1	.11	@	—
New Unbleached	.14¼	@	.15
Washable	.07¾	@	.08
Fancy	.10½	@	—
Cottons—According to Grades—Blue—			
Blue overalls	12½	@	—
New Black, soft	.07	@	—
Khaki Cuttings	.07	@	—
Corduroy	.04	@	.05
New Canvas	.12	@	.12½

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1	10.00	@	—
Repacked	9.50	@	—
Miscellaneous	8.50	@	—
White No. 2—			
Repacked	6.50	@	—
Miscellaneous	5.25	@	—
Thirds and Blues—			
Repacked	5.00	@	—
Miscellaneous	3.50	@	—
Roofing Stock—			
No. 1	3.00	@	—
No. 2	3.00	@	—
No. 3	2.50	@	—
No. 4	2.00	@	—

PHILADELPHIA

Paper

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila No. 2	.04	@	.04½
No. 2 Kraft	.05¼	@	.05¾
No. 1 Kraft	.06¼	@	.06½
Common Bogus	.02¾	@	—
Straw Board	56.00	@	55.00
News Board	Nominal	@	—
Chip Board	Nominal	@	—
Wood Pulp Board. (Carload Lots)	4.50	@	5.00
Binder Boards—			
Per ton	75.00	@	80.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	66.00	&	68.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15

Bagging

F. o. b. Phila.

Gunny, No. 1—			
Foreign	3.00	@	3.25
Domestic	3.00	@	3.25
Manila Rope	4.75	@	6.00
Sisal Rope	2.50	@	—
Mixed Rope	1.00	@	1.25
Scrap Burlaps	2.25	@	2.50
Wool Tares, heavy	2.00	@	2.13
Mixed Strings	1.25	@	—
No. 1, New Lt. Burlap	3.50	@	3.75
New Burlap Cuttings	3.75	@	—

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.60	@	2.70
No. 2 Soft White	2.00	@	2.20
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	1.00	@	1.10
Solid Ledger Stock	1.75	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.30	@	1.40
No. 2 Books, light	1.20	@	1.25
No. 1 New Manila	1.80	@	2.00
No. 1 Old Manila	1.60	@	1.75
Print Manila	1.25	@	1.35
Container Manila	1.00	@	1.10
Old Kraft	2.00	@	2.10
Over issue News	1.00	@	1.10
Old Newspaper	.70	@	.75
No. 1 Mixed Paper	.65	@	.70
Common Paper	.50	@	.60
Straw Board, Chip	.60	@	.65
Binders Bd., Chip	.60	@	.65

Domestic Rags—New

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.13½	@	.14
New White, No. 2	.06½	@	—
Silesias, No. 1	.10½	@	.11
New Unbleached	.14	@	.14½
Washable	.07¾	@	.08¾
Fancy	.09½	@	.10
Cottons—according to grades—			
Blue Overall	.11	@	.11½
New Blue	.04	@	.04¼
New Black Soft	.06	@	.06¼
New Light Seconds	.03½	@	.03¾
Khaki Cuttings	.06½	@	.07
Corduroy	.04	@	.04½
New Canvas	.08¾	@	.09
New Black Mixed	.05	@	.05½

Old

White, No. 1—			
Repacked	6.75	@	7.00
Miscellaneous	6.25	@	6.50
White, No. 2—			
Repacked	.05	@	.05¼
Miscellaneous	.04¼	@	.05
Thirds and Blues—			
Repacked	3.75	@	4.00
Miscellaneous	3.15	@	3.25
Black Stockings	4.25	@	4.50
Roofing Stock—			
No. 1	2.00	@	2.15
No. 2	1.90	@	2.00
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	1.10	@	1.15
B	1.05	@	1.10
C	1.00	@	1.05

TORONTO

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.10½	@	.12½
Light tinted	.11	@	.13½
Dark tinted	.12½	@	.15
Ledgers (sulphite)	—	@	.13
Ledgers No. 1	.36	@	—
Ledgers No. 2	.27	@	—
Writing	.09¼	@	
Writing S. C.	.10	@	
News f. o. b. Mills—			
Rolls (carloads)	3.50	@	—
Sheets (carloads)	—	@	4.25
Sheets (2 tons or over)	—	@	4.60
Book—			
No. 1 M. F. (carloads)	8.00	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.50	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.75	@	—
White Rap	5.25	@	—
"B" Manila	5.50	@	—
No. 1 Manila	6.50	@	—
Fiber	6.50	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.15	@	—

Pulp

(F. o. b. Mill)

Ground wood	29.00	@	30.00
Sulphite easy bleaching	60.00	@	65.00
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	75.00	@	80.00
Sulphate	62.50	@	65.00

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. cut	3.60	@	—
Soft White Book shavings	—	@	3.10
White Blk, News	1.70	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	—	@	1.60
Printed Manilas	1.00	@	—
Kraft	2.10	@	2.10
News and Scrap—			
Strictly Overissue	.80	@	—
Folded News	.80	@	—
No. 1 Mixed Papers	.55	@	—
Domestic Rags—			
Price to mills, f. o. b. Toronto	Per lb.		
No. 1 White shirt cuttings	.14½	@	.14¾
No. 2 White shirt cuttings	.08	@	.08½
Fancy shirt cuttings	.09¾	@	.10
No. 1 Old Whites	—	@	—
Third and blues	—		—